SP00225 (2018 Specifications: 10-01-20) (*This Section requires SP00440 and*

 *SP00960 when temporary traffic*

 *signals are required.)*

(NOTE: All Federal-aid projects, including local government projects, that are advertised and awarded by ODOT require "Method 'A' Unit Basis" measurement [see Standard Specifications 00225.80].)

# SECTION 00225 - WORK ZONE TRAFFIC CONTROL

(Follow all instructions. If there are no instructions above a subsection, paragraph, sentence, or bullet, then include it in the project. The specifications may be modified to include project specific specifications, but all additions, deletions, or modifications must be sent to the ODOT Technical Resource and State Specifications Engineer for review and approval.)

Comply with Section 00225 of the Standard Specifications modified as follows:

**00225.01(b)  Definitions** – Add the following to the end of the subsection:

**Temporary Walk** – Temporary Surfacing for a sidewalk or Multi-Use Path designated to be used by pedestrians, bicyclists, or other non-motorized users.

(Use the following lead-in paragraph and subsection .01(d) when curb ramp work is required.)

Add the following subsection:

**00225.01(d)  Terminology** - According to 00110.05(a), for the purposes of this Contract, the terms "sidewalk ramp" and "sidewalk ramps" shall respectively refer to and shall be read to mean "curb ramp" and "curb ramps".

(Use the following subsection .02(a) when adding any of the following temporary signs.)

**00225.02(a)  Temporary Signs** - Add the following bullet(s) to the end of the bullet list:

(Use the following paragraph if a flagger is to be used to provide pedestrian guidance through the TPAR during flagging operations.)

Place a “WAIT FOR FLAGGER” (CR4-23) sign approximately 50 feet in advance of each flagger station, facing incoming pedestrian traffic. Install the sign on a conical marker or other temporary sign support, as shown or as directed. Do not allow the sign installation height or location to block the visibility of the flagger for incoming public traffic.

(Use the following two bullets when closing a pedestrian pathway or sidewalk and detouring pedestrians 24 hours per day over an extended period of time. Use either "a pedestrian pathway" or "the sidewalk(s) at \_\_\_\_" and delete the option that is not used. If using "the sidewalk(s) at \_\_\_\_", delete "(s)" or parentheses and fill in the blank with a brief description of the sidewalk location or segment. Delete all orange parentheses.)

At least ten Calendar Days before closing ***(***a pedestrian pathway***)*** ***(***the sidewalk***(***s***)*** at \_\_\_\_\_\_***)***, place a “SIDEWALK CLOSED, Full Time” (CW11‑4) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.

Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the “SIDEWALK CLOSED, Full Time” (CW11‑4) signs while the TPAR is open to pedestrian traffic.

(Use the following two bullets when closing a pedestrian pathway and detouring pedestrians during specific hours of the day over an extended period of time. Use either "a pedestrian pathway" or "the sidewalk(s) at \_\_\_\_" and delete the option that is not used. If using "the sidewalk(s) at \_\_\_\_", delete "(s)" or parentheses and fill in the blank with a brief description of the sidewalk location or segment. Delete all orange parentheses.)

At least ten Calendar Days before closing ***(***a pedestrian pathway***)*** ***(***the sidewalk***(***s***)*** at \_\_\_\_\_\_***)***, place a “SIDEWALK CLOSED, Daily” (CW11‑5) sign in advance of each future closure point. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or sign support such that it narrows the pedestrian pathway to a width of less than 4 feet.

Before opening the TPAR, place TPAR signing and other TCM as shown, or as directed. Maintain the “SIDEWALK CLOSED, Daily” (CW11‑5) signs while the TPAR is open to pedestrian traffic.

(Use the following three bullets when maintaining pedestrian access through the work area using the existing roadway shoulder or other portion of the roadway.)

At least ten Calendar Days prior to the start of work, place a “SIDEWALK OPEN” (CW11-3) sign in advance of each end of the Work Area. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or support such that it narrows the pedestrian pathway to a width less than 4 feet.

Before starting work, place pedestrian-specific TCM as shown in the TCP, or as directed. Maintain “SIDEWALK OPEN” (CW11-3) signs while work is affecting the pedestrian pathway.

Place a “PEDESTRIANS ON ROADWAY” (CW11-2) sign at the beginning of each end of the Work Area, facing incoming traffic as shown, or as directed.

(Use the following bullet when construction trucks will be leaving or entering the roadway.)

Install a 54-inch "TRUCKS LEAVING HIGHWAY XXXX FT" sign in advance of each entrance point to the Work Area at sign spacing “A” from the “TCD Spacing Table” shown on the Standard Drawings. Install a 54-inch "TRUCKS ENTERING HIGHWAY XXXX FT" sign in advance of each exit point from the Work Area at sign spacing “A” from the “TCD Spacing Table” shown on the Standard Drawings.

(Use the following paragraph when requested by the Local Agency or when the project is located on ODOT right-of-way and meets one or more of the following criteria:

* Project is on a freeway.
* An engineer's estimate of $5 million or more.
* Project duration longer than one year.
* Other high-profile projects as determined by the ODOT Region or Local Agency.

The Project Identification sign is normally only applied to the project mainline. Limit placement of additional signs on crossroads to other State highways or roads with ADT > 5,000. Fill in the blank.)

Install a "PROJECT IDENTIFICATION" (CG20-8) sign with an "ODOT" logo rider on the \_\_\_\_\_\_\_\_\_\_\_\_\_ Highway. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Supplemental Drawings, in advance of the "ROAD WORK AHEAD" sign at each end of the Project, facing incoming traffic. The Engineer will determine the sign legend.

(Use the following two paragraphs when using initial "ROAD WORK AHEAD" and "END ROAD WORK" signing. Fill in the blank.)

Install "ROAD WORK AHEAD" (W20‑1‑48) signs with a 36 by 24-inch "FINES DOUBLE" (R2‑6aP) rider on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Highway, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on barrier mounted signs.

Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20‑2A‑24) sign a distance of (A ÷ 2) according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.

(Use the following paragraph when it is necessary to reduce the overall roadway width between positive barriers [for example: barrier, guardrail, and falsework] to less than 19 feet.)

When the horizontal clearance for the Roadway is less than 19 feet, install horizontal clearance (CW21‑12‑48) signs, identifying the narrowest width of the Roadway. Locate these horizontal clearance signs as shown or as directed.

(Use the following paragraph when it is necessary to reduce the overall vertical clearance to less than 15 feet 6 inches.)

When the vertical clearance is less than 15 feet 6 inches, install low clearance (W12‑2‑48) and (OW12‑2‑36) signs. The clearance shown on the signs shall be 4 inches less than the shortest height of the opening. Locate these low clearance signs as shown or as directed.

(Use the following paragraph on 2-mile-long or longer freeway projects when sign flag boards are required to enhance the visibility of the signs.)

On freeway post mounted signs, install two sign flag boards, as shown on the Standard Drawings, above the "ROAD WORK NEXT XX MILES" (CG20‑1) signs and the initial "ROAD (or BRIDGE) WORK AHEAD" (W20‑1‑48) signs.

(Use the following paragraph and bullets on projects that include a detour route.)

Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:

* "DETOUR AHEAD", "DETOUR XXXX FT", "DETOUR X/X MILE" (W20‑2) signs.

"ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20‑3) signs.

(Use the following paragraph when the project will result in ground disturbance within Portland city limits. Fill in the first blank with the highway name and the second blank with the phone number. Check with the Environmental Coordinator.)

Install an “EROSION CONCERNS” sign on the \_\_\_\_\_\_\_\_\_\_ Highway, at each end of the project. Place the sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings, or as shown in the Plans. Install the sign so that the sign face is rotated 90 degrees to approaching traffic and faces the roadway centerline. Replace “(XXX) XXX-XXXX” shown on the sign design detail with “(\_\_\_) \_\_\_‑\_\_\_”.

(Use the following Emulsified Asphalt Surface Treatment language on Chip Seal "Emulsified Asphalt Surface Treatment" (00710 or 00715) projects, provided the following criteria are met:

* Compile Field Data Summary
* ADT < 5,000 for roadways with posted speed > 45 mph
* ADT < 10,000 for roadways with posted speed ≤ 45 mph
* Federally funded projects require FHWA approval

Fill in all blanks.)

[ Begin Emulsified Asphalt Surface Treatment language ]

During Emulsified Asphalt surface treatment operations, protect traffic by installing signing according to the "LOOSE GRAVEL IN ROADWAY SIGNING" detail shown on the Standard Drawings. The maximum length of loose sand or gravel shall not exceed 5 miles.

When the existing centerline striping on the \_\_\_\_\_\_\_\_\_\_\_\_ Highway is obliterated, do the following:

* Place a "NO CENTER LINE" (W8‑12) sign with a 24 by 18-inch "NEXT \_\_ MILES" (W7‑3aP) plaque, approximately 2,500 feet in advance of each end of the Project.

Place "NO CENTER LINE" (W8‑12) signs on approximately 2 mile intervals for each direction of traffic.

(In the next two bullets, use the language in the orange parentheses and delete the parentheses when the project meets the following criteria:

* ADT < 1,000;
* Project Length is > 10 miles; and
* Engineering judgment determines the additional “DO NOT PASS” signs are needed.

Delete the language in the orange parentheses, and the language within them, when the above criteria are not met.)

Place a "DO NOT PASS" (R4‑1) sign on each side of the Roadway at the beginning of each existing no passing zone***(***, as necessary, except, if the length between two consecutive existing no passing zones is 1,300 feet or less, combine the no passing zones and place one "DO NOT PASS" sign on the right side of the Roadway at the beginning of each subsequent no passing zone within the combined zones***)***.

Place a "PASS WITH CARE" (R4‑2) sign on the right side of the Roadway at the end of each existing no passing zone. If the length between no passing zones is 1,300 feet or less, do not install the "PASS WITH CARE" signs***(*** within the combined zones. Instead, place one “PASS WITH CARE” sign on the right side of the Roadway at the end of the last no passing zone in a combined zone***)***. Cover the "PASS WITH CARE" signs with a non-transparent weather and wind proof cover each time they are within an active Work Area controlled by flaggers with or without pilot cars, or when directed.

Install two sign flag boards above "ROAD WORK NEXT \_\_ MILES", "ROAD WORK AHEAD", and "NO CENTER LINE" (with "NEXT \_\_ MILES" rider) post mounted signs.

[ End Emulsified Asphalt Surface Treatment language ]

(Use the paragraph when flaggers are needed at a single location for 24 or more consecutive hours.)

Install a "24 HR FLAGGING AHEAD" (CW20‑9) sign in each direction approximately 250 feet prior to the "BE PREPARED TO STOP" sign. Remove the temporary signs when 24‑hour flagging is no longer required, or as directed.

(Use the following paragraph when a new temporary or permanent STOP sign is installed at an intersection. Insert with the appropriate distances based on the pre‑construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. If the STOP and "Stop Ahead" signs are permanent, the permanent "Stop Ahead" sign may be used in lieu of a temporary sign.)

Install the following warning signs for each new "STOP" sign installed in the intersection. Install a "Stop Ahead" (W3‑1) symbol sign approximately \_\_\_\_ feet in advance of the "STOP" sign. Install a "NEW TRAFFIC PATTERN AHEAD" (W23‑2) sign approximately \_\_\_\_ feet in advance of the "Stop Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "STOP" sign.

(Use the following paragraph and bullets for the installation of, or modification to, a permanent traffic signal. Delete the language in orange parentheses that does not apply and delete all orange parentheses. Insert the appropriate distances based on the pre-construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. If a yellow permanent "Signal Ahead" sign is included in the plans, this sign may be installed as the needed temporary sign. Be sure additional language or notes are on the plans to make this intention clear.)

For each leg of the intersection affected by ***(***the new***)(***changes to the***)*** traffic signal, install the following warning signs:

A "Signal Ahead" (W3‑3) symbol sign approximately \_\_\_\_ feet in advance of the intersection, shown on the Standard Drawings or as modified by the Plans.

A "NEW TRAFFIC PATTERN AHEAD" (W23‑2) sign approximately \_\_\_\_ feet in advance of the "Signal Ahead" sign. Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the "Signal Ahead" sign.

(Use the following two paragraphs when modifications are made to lane configurations, lane assignments, or roadway geometry that affects traffic patterns. Insert the appropriate distance based on the pre-construction posted speed and according to the TCD Spacing Table in the ODOT Standard Drawings. Delete the language in orange parentheses that does not apply and delete all orange parentheses. Copy and paste paragraphs, as necessary, to address all affected directions or legs of the intersection(s).)

Install a "NEW TRAFFIC PATTERN AHEAD" (W23‑2) sign approximately \_\_\_\_ feet in advance of \_\_\_\_*(location details)*\_\_\_\_\_, facing ***(***northbound***)(***southbound***)(***eastbound***)(***westbound***)*** incoming traffic.

(Fill in the blank describing the appropriate modification.)

Keep the "NEW TRAFFIC PATTERN AHEAD" signs in place 30 Calendar Days after installing the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(Use the following paragraph when parking restrictions are necessary.)

Install an 18 by 24-inch "NO PARKING" (R8‑3a) sign in every block where on-street parking is prohibited, facing incoming traffic.

(Use the following ACP language on Level 1, 2, or 3 ACP Overlay (00744 or 00745) Preservation projects, provided the following criteria are met:

* Obtain Region Technical Center Manager's approval
* Perform and/or document enough traffic analysis to confirm traffic volumes meet the following criteria:
* ADT < 5,000 for roadways with posted speed > 45 mph
* ADT < 10,000 for roadways with posted speed ≤ 45 mph

Fill in all blanks.)

[ Begin ACP Language ]

When the existing centerline striping on the \_\_\_\_\_\_\_\_\_\_\_\_ Highway is obliterated, do the following:

Place a "NO CENTER LINE" (W8‑12) sign with a 24 by 18-inch "NEXT \_\_ MILES" (W7‑3aP) rider, approximately 2,500 feet in advance of each end of the Project.

Place "NO CENTER LINE" (W8‑12) signs on approximately 2 mile intervals for each direction of traffic.

Place a "DO NOT PASS" (R4‑1) sign on each side of the Roadway at the beginning of each existing no passing zone.

Place a "PASS WITH CARE" (R4‑2) sign on the right side of the Roadway at the end of each existing no passing zone. If the length between no passing zones is 1,300 feet or less, do not install the "PASS WITH CARE" signs. Cover the "PASS WITH CARE" signs with a non-transparent weather and wind proof cover each time they are within an active Work Area controlled by flaggers with or without pilot cars, or when directed.

Install two sign flag boards above "ROAD WORK NEXT \_\_ MILES", "ROAD WORK AHEAD", and "NO CENTER LINE" (with "NEXT \_\_ MILES" rider) post mounted signs.

[ End ACP Language ]

(Use the following paragraph on all projects 2 miles or greater in length when work is not intermittent. For non-freeway projects, use "a", delete "(s)", and delete the last sentence. For freeway projects, use "two", "s", and the last sentence. Delete the language in orange parentheses that does not apply and delete all orange parentheses. Fill in the blanks.)

Install ***(***a***)(***two***)*** 60 by 24-inch "ROAD WORK NEXT \_\_\_\_ MILES" (CG20‑1) sign***(***s***)*** on the \_\_\_\_\_\_\_\_\_\_ Highway, in advance of the "ROAD WORK AHEAD" (W20‑1) sign according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings. ***(***Install the median sign approximately 30 feet ahead of the shoulder sign.***)***

(Use the following paragraph on all projects 2 miles or greater in length when work is intermittent. For non-freeway projects, use "a" and delete "(s)". For freeway projects, use "two" and delete parentheses around "(s)". Delete the language in orange parentheses that does not apply and delete all orange parentheses. Fill in the blanks.)

Install ***(***a***)(***two***)*** 60 by 36-inch "INTERMITTENT ROAD WORK NEXT \_\_\_ MILES" (CG20‑13) sign***(***s***)*** on the \_\_\_\_\_\_\_\_\_\_ Highway, in advance of the "ROAD WORK AHEAD" (W20‑1) sign on each end of the Project according to sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

(Use the following paragraph on urban projects where there is an existing bike lane, designated "Bicycle Route", or when a significant volume of bicycle traffic can be expected and is required to use the travel lane.)

When construction requires bicycles to use the Traffic Lanes, install a "Bicycle ON ROADWAY" (CW11‑1) symbol sign on 1/2 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

(Use the following paragraph on bridge projects where there is an existing bike lane on the bridge, designated "Bicycle Route", or when a significant volume of bicycle traffic can be expected and is required to use the travel lane.)

When construction requires bicycles to use the Traffic Lanes on Structures, install a "Bicycle ON ROADWAY" (CW11‑1) symbol sign according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, in advance of the Structure or the initial point where the bicycle facility is impacted by construction. Keep the signs in place until completion of the bikeway final surface.

(Use the following paragraph on rural preservation projects where there is a designated "Bicycle Route" or a significant volume of bicyclists can be expected.)

Install a "Bicycle ON ROADWAY” (CW11‑1) symbol sign and a 24 by 18-inch "NEXT XX MILES" (W7‑3aP) plaque according to "Sign Spacing A", from the "TRAFFIC CONTROL DEVICES SPACING TABLE" shown on the Standard Drawings, after the "ROAD WORK AHEAD" sign. Install a “Bicycle ON ROADWAY” symbol sign on 1 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

(Use the following paragraph for all Freeway and high-speed, multi-lane projects.)

Install a 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23‑14) sign on rigid substrate on the back of all material or Equipment delivery vehicles.

(Use the following paragraph when Speed Reduction measures (as shown on Standard Drawing TM880) are required and when all of the following criteria are met:

* Moving operations (e.g. paving) on Interstate freeways or multilane divided highways.
* Pre-construction posted speed ≥ 45mph.
* Workers will be adjacent to live traffic, but not working behind barrier, guardrail or other positive protection barrier system.
* Work will be performed at night or work will be performed during the daytime on freeways or other high-speed facilities with ADT > 10,000.

NOTE: A “Work Zone Speed Reduction Request” MUST be completed and submitted when using this paragraph. See ODOT Traffic Control Plans Unit website for details and the Request Form.)

During \_\_*(brief work description)*\_\_ operations on the \_\_\_\_\_\_\_\_\_\_ Highway, install temporary signing and other required TCD as shown. Install temporary speed zone signing according to and as shown in the Temporary Speed Zone Order.

(Use the following Pilot Car Language on projects that include a pilot car in the bid schedule. See ODOT Sign Policy & Guidelines, Chapter 6 for application details and sign designs.)

[ Begin Pilot Car Language ]

(Use one of the following two options, as instructed below. Delete the option that does not apply.)

[ Option 1 - Use the following paragraph when plan sheets are being developed for the Traffic Control Plan and qualifying side road locations can be shown. ]

During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4‑20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation, as shown.

[ Option 2 - Use the following paragraph and bullet list when plan sheets are not being developed for the Traffic Control Plan. Fill in the blanks with the location of each “WAIT FOR PILOT CAR” sign. ]

During pilot car operations, install a 15 by 24-inch "WAIT FOR PILOT CAR" (CR4‑20) sign at stop-controlled side roads and accesses intersecting the Highway within the limits of the pilot car operation at the following locations:

* \_\_\_\_(Side road name, STA XXX+XX)\_\_\_\_\_\_

\_\_\_\_(Side road name, STA XXX+XX)\_\_\_\_\_\_

\_\_\_\_(Side road name, STA XXX+XX)\_\_\_\_\_\_

During pilot car operations, install a 12 by 12-inch "WAIT FOR PILOT CAR" (CR4‑20a) sign in private residential driveways accessing the Highway within the limits of the pilot car operation. Place the sign in the driveway facing the private residence and so the sign face is not visible to Public Traffic on the Highway. Do not use the sign for apartments, condominiums or business accesses.

At accesses, side roads, or residential driveways where "WAIT FOR PILOT CAR" (CR4‑20) signs are installed, do not allow traffic to be stopped or held for longer than 20 minutes.

In addition to the signs, public notification (e.g. flyers, door hangers) may be used to inform the residents that may be affected by the pilot car operations and the "WAIT FOR PILOT CAR" signs.

[ End Pilot Car Language ]

(Use the following subsection .11(b)(3) when temporary barrier sign supports are required.)

**00225.11(b)(3)  Concrete Barrier Sign Supports** ‑ Replace this subsection with the following subsection:

**00225.11(b)(3)  Temporary Barrier Sign Supports ‑**

Use concrete barrier sign supports that meet the following:

Conform to the Standard Drawings.

Attach securely to the top of the concrete barrier.

Support a maximum 12 square feet of total sign area.

(Use the following subsection .12(b) when temporary guardrail is required.)

**00225.12(b)  Guardrail** – Replace this subsection, except subsection number and title, with the following:

Use guardrail for temporary applications meeting applicable requirements of Section 00810, except posts may be untreated. A certificate of origin according to 00165.35(d) is not required for temporary guardrail. Use guardrail terminals from the QPL and as shown on the Standard Drawings.

Salvaged guardrail materials complying with the requirements of 00810.15(b) may be used.

(Use the following subsection .12(c) when temporary barrier and appurtenances are required. Delete "(s)" or the parentheses as applicable.)

**00225.12(c)  Concrete Barrier and Appurtenances** - Replace the title of this subsection with “**Barrier and Appurtenances**”

Add the following to the end of the subsection:

Use a temporary barrier or minimum deflection temporary barrier from the QPL or Concrete Barrier as follows:

(Use the following subsection .12(c)(1) when concrete barrier terminals or barrier transitions are required. Delete "(s)" or the parentheses as applicable.)

**00225.12(c)(1)  Concrete Barrier** - Add the following paragraph***(***s***)*** after the bullet list:

(Use the following paragraph when concrete barrier terminals or barrier transitions are required. Include Standard Drawing RD510.)

Use concrete barrier terminals as shown on the Standard Drawings.

(Use the following paragraph when cast-in-place concrete barrier transition to bridge rail or cast-in-place tall concrete barrier transition to bridge rail are required. Include Standard Drawing RD520 or RD550 (tall concrete barrier). Delete "(tall)" or the parentheses as applicable.)

Provide cast-in-place ***(***tall***)*** concrete barrier transitions as shown on the Standard Drawings.

(Use the following paragraph when metal guardrail connections to concrete barrier or metal guardrail connections to tall concrete barrier are required. Include Standard Drawing RD530 or RD570 (tall concrete barrier).)

Use metal guardrail transitions as shown on the Standard Drawings.

(Use the following paragraph when concrete barrier around median obstacles or tall concrete barrier around median obstacles is required. Include Standard Drawing RD535 or RD575 (tall concrete barrier). Delete "(tall)" or the parentheses as applicable.)

Use modified ***(***tall***)*** concrete barrier around obstacles as shown on the Standard Drawings.

(Use the following paragraph when cast-in-place tall concrete barrier transition to standard concrete barrier is required. Include Standard Drawing RD560.)

Provide cast-in-place tall concrete barrier transitions to standard concrete barrier as shown on the Standard Drawings.

(Use the following subsection .12(d) when a truck-mounted attenuator is required.)

**00225.12(d)  Impact Attenuators** - Add the following to the end of this subsection:

Furnish appropriate TMAs from the QPL, based on the pre-construction posted speed, as follows:

 **Pre‑Construction Posted Speed:TMA**

 < 45 mph TL‑2 Rated TMA

 45 - 70 mph TL‑3 Rated TMA

The support vehicle for a TL‑2 rated TMA shall have a minimum weight of 9,900 pounds. The support vehicle for a TL‑3 rated TMA shall have a minimum weight of 22,000 pounds.

When a TMA is in place, set the parking brake and transmission on the support vehicle as recommended by the TMA manufacturer.

If used in a mobile operation, the TMA support vehicle shall maintain a consistent distance from the mobile operation, as shown in the TMA Support Vehicle Placement tables.

(Use the following lead-in paragraph and subsection .12(g) when using bicycle channelizing devices on a project.)

Add the following subsection:

**00225.12(g)  Bicycle Channelizing Devices** - Use bicycle channelizing devices from the QPL or Conditional Use List.

(Use the following lead-in paragraph and subsection .12(h) when Temporary Glare Screens are required. Do not use Temporary Glare Screens on permanent bridge concrete barrier or rail without Technical Resource approval.)

Add the following subsection:

**00225.12(h)  Temporary Glare Screens** - Use temporary glare screens from the QPL or Conditional Use List.

(Use the following subsection .13(a) in commercial business districts or local streets where multiple store fronts or business accesses are impacted.)

**00225.13(a)  Tubular Markers** - Add the following two paragraphs to the end of this subsection:

Use blue plastic markers for temporary business accesses only. Use orange plastic markers for all other applications of Work Zone traffic control.

Blue plastic tubular markers shall be reflectorized with at least two blue, flexible reflective bands at least 3 inches wide, securely attached no more than 2 inches from the top with no more than 6 inches but not less than 1 inch between the bands.

(Use the following subsection .13(e)(2) when temporary barrier is required.)

**00225.13(e)(2)  Concrete Barrier** - Replace this subsection with the following subsection:

**00225.13(e)(2)  Temporary Barrier** - At temporary barrier locations, use Type 5 delineators.

(Use the following lead-in paragraph and subsection .13(i) only when an “Approval Letter” has been received from the State Traffic Engineer for the use of temporary transverse rumble strips on a State highway. Include Standard Detail DET4710 in the TCP when this unique specification is used.)

Add the following subsection:

**00225.13(i)  Temporary Transverse Rumble Strips** - Use temporary transverse rumble strips from the QPL or Conditional Use List.

(Use the following subsection .14(a) when flagger station lighting is required.)

**00225.14(a)  Flagger Station Lighting** - Add the following bullet to the end of the bullet list:

* In addition to the products listed on the QPL, tripod mounted or cart mounted flagger station lights that were purchased on or before January 1, 2014 and that were on the QPL before January 1, 2014 may also be used. Provide proof of the original purchase date to the Engineer.

(Use the following subsection .14(b) when Temporary Illumination is required.)

**00225.14(b)  Temporary Illumination** - Replace the sentence that begins "Furnish materials for temporary…" with the following sentence:

Furnish materials for temporary illumination meeting the requirements of Section 00960, 00970, 02926, and the temporary illumination Plans.

(Use the following subsection .15 when Temporary Traffic Signals are required.)

**00225.15  Traffic Signals** - Add the following paragraph after the paragraph that beings "Furnish cable, guy wires, hardware…":

Submit stamped Working Drawings, details, and calculations for the wood pole designs to the Engineer for review according to 00150.35. Satisfy the requirements of 02120.10 and include designs for the wood poles, guy anchors, span wires, pole setting depths, and pole bearing.

(Use the following subsection .15(a) when Temporary Traffic Signals are required.)

**00225.15(a)  Temporary Traffic Signals** - Replace the sentence that begins "Use materials for temporary…" with the following sentence:

Use materials for temporary traffic signals that conform to Sections 00960, 00990, 02120, and the following:

(Use the following subsection .16(b) when Speed Reduction measures (as shown on Standard Drawing TM880) are required.)

**00225.16(b)  Portable Changeable Message Signs** - Add the following paragraph to the end of this subsection:

For PCMS mounted on rollers, use 2-line PCMS from the QPL.

(Use the following lead-in paragraph and subsection .16(c) when a Radar Speed Trailer is required or when Speed Reduction measures (as shown on Standard Drawing TM880)are required.

NOTE: If the Radar Speed Trailer will be used with a temporary Speed Reduction Order, a “Work Zone Speed Reduction Request” must be completed and submitted to the ODOT Traffic-Roadway Section. See the ODOT Traffic Control Plans Unit website for details and a copy of the Request form.

If the Radar Speed Trailer will be used to supplement an advisory speed within the Work Area, a Speed Reduction Request is not needed.)

Add the following subsection:

**00225.16(c)  Radar Speed Trailer** - Use a radar speed trailer with a Type 2 panel from the QPL, Conditional List, or as approved.

(Use the following subsection .17 when temporary curb ramps and Temporary Walks are required.)

**00225.17  Temporary Sidewalk Ramps** - Replace the title of this subsection with “**Temporary Curb Ramps and Temporary Walks”**

Add the following paragraph to the end of this subsection:

Use a Temporary Walk from the QPL or use ACP, PCC, or other approved Materials for on-site constructed Temporary Walks.

(Use the following lead in paragraph and subsection .18 when an Automated Flagger Assistance Device is required.)

Add the following subsection:

**00225.18  Automated Flagger Assistance Device**- Furnish an automated flagger assistance device (AFAD) from the QPL. Provide a copy of the Manufacturer’s specifications and operating instructions for each model of AFAD installed on the Project site according to 00220.04.

(Use the following lead-in paragraph and subsection .19 when pole base excavation covers are required.)

Add the following subsection:

**00225.19  Pole Base Excavation Covers** - Use pole base excavation covers meeting the following requirements:

* Utility grade plywood

3/4-inch minimum thickness

New or in like new condition

(Use the following lead-in paragraph and subsection .29 when a Pedestrian Transport Vehicle or a Tow Truck is required.)

**00225.29  Pilot Cars** -  Replace this subsection with the following subsection:

**00225.29  Work Zone Vehicles** –

**(a)** **Pilot Car** - Provide pilot cars with the following features:

* No smaller than a compact pickup truck.

Four wheels.

A "PILOT CAR FOLLOW ME" (G20-4-18) sign mounted in a conspicuous location on the rear of the vehicle.

A roof or post mounted rotating amber light or strobe light that is visible for 360.

A two-way radio with a range suitable for each Work Zone, unless otherwise directed.

(Use the following subsection .29(b) when a Pedestrian Transport Vehicle is required.)

**(b)  Pedestrian Transport Vehicle** - Provide a pedestrian transport vehicle with the following features:

* 26,000 lbs GVW or less

A roof or post-mounted rotating amber light or strobe light that is visible for 360 degrees. Light must be visible and functioning at all times while operating within the Project limits.

A two-way radio with a range suitable for each Work Zone, unless otherwise directed.

A “CONSTRUCTION VEHICLE DO NOT FOLLOW” (CW23-14) sign mounted in a conspicuous location on the rear of the vehicle.

A powered lift or other mechanism to safely load and unload an ADA passenger in a wheel chair, powered chair or other device.

Accommodation for at least two ADA passengers and a maximum of 10 able-bodied pedestrians.

(Use the following bullet if construction staging plan does not provide a safe, adequate space for bicycle traffic to ride through the active Work Area.)

A commercially available bicycle rack capable of securely carrying a minimum of three bicycles. Do not loosely load bicycles onto the pedestrian transport vehicle.

(Use only one of the following three options when tow trucks are required. Delete the options that do not apply.)

(Option 1 - Use the following subsection .29(c) for urban, non-freeway projects to include a Class “A” tow truck.)

**(c)  Tow Truck** - Use a Class "A" tow truck conforming to the following:

* 10,000 pounds minimum manufacturers gross vehicle weight rating.

Single rear axle with dual wheels.

6 ton boom rating - dual or single boom.

Minimum 100 feet of 3/8" cable.

In good operating condition.

Equipped with roof or post mounted rotating red or amber lights or strobe lights that are visible for 360°.

Equipped with all equipment and materials necessary to perform the required operation.

Portable, self-contained two-way radio and repeaters, as required, with a range suitable for communication throughout each Work Zone, unless otherwise directed.

[End Option 1]

(Option 2 - Use the following subsection .29(c) for rural non-freeway projects, or freeway projects to include a Class “B” tow truck.)

**(c)  Tow Truck** - Use a Class "B" tow truck conforming to the following:

* 17,000 pounds minimum manufacturers gross vehicle weight rating.

10 Ton boom rating - dual or single boom.

Single or tandem rear axle with dual wheels.

Minimum 150 feet of 7/16" cable.

In good operating condition.

Equipped with roof or post mounted rotating red or amber lights or strobe lights that are visible for 360°.

Equipped with all Equipment and Materials necessary to perform the required operation.

Portable, self-contained two-way radio and repeaters, as required, with a range suitable for communication throughout each Work Zone, unless otherwise directed.

[End Option 2]

(Option 3 - Use the following subsection .29(c) for freeways reduced to one lane and where trucks will be on a grade over 3%.)

**(c)  Tow Truck** - Use a Class "C" tow truck conforming to the following:

* 27,500 pounds minimum manufacturers gross vehicle weight rating.

25 Ton boom rating - dual or single boom.

Minimum 150 feet of 5/8" cable.

Tandem rear axle truck chassis (3 axle truck).

Air brakes and capable of supplying air to towed vehicles.

In good operating condition.

Equipped with roof or post mounted rotating red or amber lights or strobe lights that are visible for 360°.

Equipped with all Equipment and Materials necessary to perform the required operation.

Portable, self-contained two-way radio and repeaters, as required, with a range suitable for communication throughout each Work Zone, unless otherwise directed.

[End Option 3]

(Use the following subsection .32(a) when Speed Reduction measures (as shown on Standard Drawing TM880) are required.

Note: Include sufficient TCS pay item quantities to provide at least one construction work shift for each shift where the work described in subsection .02, will be active. A TCS is required for the speed reduction measure work.)

**00225.32(a)  Traffic Control Supervisor** - Add the following paragraph and bullets to the end of this subsection:

The TCS shall be available and on site at all times that a temporary regulatory speed zone reduction is in effect for the \_\_*(brief work description from subsection .02(a))*\_\_\_ operations. In addition to the duties listed in this subsection, the TCS duties also include the following:

* Inspect temporary TCD used during \_\_*(brief work description from subsection .02(a))*\_\_\_ operations immediately following initial placement or installation of TCD. Inspect TCD at least one additional time during each construction work shift.

When law enforcement will be providing enforcement services for the Project, coordinate and communicate work locations and schedules with the Engineer and law enforcement agency before and during each work shift.

(Use the following subsection .32(a) when Pedestrian Transport Vehicles are required and the project has a TCS. Delete the subsection number and title if the subsection number and title are included above. Delete all orange parentheses.)

***(*00225.32(a)  Traffic Control Supervisor** - ***)***In the paragraph that begins “The duties of the TCS include…” add the following bullet to the end of the bullet list:

* Designate an area for pedestrians to wait for, load and unload the transport vehicle.

(Use the following subsection .32(a) when a pay item for Traffic Control Supervisor is included in the Schedule of Items. Delete the subsection number and title if the subsection number and title are included above. Delete all orange parentheses.)

***(*00225.32(a)  Traffic Control Supervisor** - ***)***Replace the sentence that begins “In the event of a Work Zone…” with the following sentence:

The TCS shall report to the Project Site within 1 hour after being notified in the event of a Work Zone incident during non-work periods.

(Use the following subsection .32(b) when a pay item for Traffic Control Supervisor is NOT included in the Schedule of Items.)

**00225.32(b)  Traffic Control Inspection Without TCS** - Add the following bullet to the end of the bullet list:

Shall report to the Project Site within 1 hour after being notified in the event of a Work Zone incident during non-work periods.

(Use the following subsection .32(b) when Pedestrian Transport Vehicles are required and the project does not have a TCS. Delete the subsection number and title if the subsection number and title are included above. Delete all orange parentheses.)

**00225.32(b)  Traffic Control Inspection Without TCS** - Add the following bullet to the end this subsection:

Designate an area for pedestrians to wait for, load and unload the transport vehicle.

(Use the following lead-in paragraph and subsection .33 when a BPA safety watcher is required in 00150.50(f).)

Add the following subsection:

**00225.33  Bonneville Power Administration (BPA) Safety Watcher** - When work requires the presence of a BPA-certified safety watcher (see 00150.50(f)), furnish personnel possessing a current, valid certification from BPA. For coordination of BPA Safety Watchers, contact \_\_\_\_\_ at BPA, \_\_\_\_\_. The duties of the BPA Safety Watcher are to watch work that could impact the BPA facilities. Equip each safety watcher according to 00225.27(a), except that "STOP/SLOW" paddles are not required.

BPA-certified safety watchers can be obtained through the following providers:

(Insert current BPA providers, as supplied by BPA below. List the firm’s name, the firms contact name, and On-Site contact number. Delete the example.)

Example:

Safety Watcher, Inc. - Benny Beaver, 503-555-0100 (office) or 503-555-0111 (cell)

(Use the following lead-in paragraph and subsection .34 when RailPros Railroad flaggers are required on UPRR railroad. Check with the State Utility and Railroad Liaison.)

Add the following subsection:

**00225.34  Railroad Flagger Services** - In accordance with the Railroad's requirements to work on and within Railroad property, provide Railroad flagger services from:

RailPros Field Services,

1705 West Northwest HWY, Suite 150

Grapevine, TX 76051

(877) 315-0513

info@railprosfs.com

(Use the following lead in paragraph and subsection .35 if a Pedestrian Transport Vehicle is included in the Project.)

Add the following subsection:

**00225.35  Pedestrian Transport Vehicle Operator** - Use pedestrian transport vehicle operators that meet the following requirements:

* Have a valid Commercial Driver license.

Are at least 18 years old.

Have had adequate training, and have the mental and physical ability to load and unload pedestrians with ADA needs and bicycles.

Have a sense of responsibility for public and work crew safety.

Have a professional appearance.

Have a professional, courteous and patient manner.

(Use the following lead in paragraph and subsection .36 if a Pedestrian Transport Vehicle is included in the Project.)

Add the following subsection:

**00225.36  Flaggers** - Direct pedestrians to use the pedestrian transport vehicle to pass through or around the Work Zone. Direct pedestrians to wait for the pedestrian transport vehicle in designated areas identified under 00225.32.

(Use the following lead in paragraph and subsection .37 when an Automated Flagger Assistance Device is required.)

Add the following subsection:

**00225.37  Automated Flagger Assistance Device Operator** - Provide a certified flagger who has been trained in the operation of the AFAD.

The duties of the AFAD operator include the following:

* Attend the AFAD at all times during the operation of the device.

Shall not flag traffic and operate an AFAD at the same time.

Each AFAD shall have a separate AFAD operator.

(Use the following lead-in paragraph and subsection .39 when tow trucks are required.)

Add the following subsection:

**00225.39  Tow Truck Operator** - Provide a tow truck operator who has:

* The mental and physical ability to safely operate the tow truck

The training and experience required to operate the tow truck

ANSI Performance Class 2 or 3 upper body garment to be worn while on the roadway retrieving a disabled vehicle

Valid Commercial Driver License

(Use the following subsection .41(b)(3) when temporary barrier sign supports are required.)

**00225.41(b)(3)  Concrete Barrier Sign Supports** – Replace the title of this subsection with “**Temporary Barrier Sign Supports”**

Replace the paragraph that begins "Mount signs on concrete barrier…" with the following paragraph:

Mount signs on temporary barrier so the:

Replace the bullet that begins "Sign and post are held …" with the following bullet:

Temporary sign and post are held securely to temporary barrier by an approved device.

(Use the following lead-in paragraph and subsection .41(b)(6) when mounting a sign support on an existing facility.)

Add the following subsection:

**00225.41(b)(6)  Existing Facility Sign Supports** - When mounting temporary signs on existing facilities, install signs as shown on the Standard Drawings or other mounting methods approved by the Engineer.

(Use the following subsection .41(d) when Speed Reduction measures (as shown on Standard Drawing TM880) are required.

**00225.41(d)  Roll-up Signs** - Add the following paragraphs to the end of this subsection:

Place roll-up signs within the active Work Area on portable roll-up sign supports.

(Use the following paragraph for projects on freeways.)

For paving operations on freeways, place “ABRUPT EDGE” (CW21‑9) and “ROAD WORK XX MPH” (CW20‑1a) signs as shown. Use an “XX” value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following paragraph for projects on non-freeways.)

For paving operations on non-freeways, place “ABRUPT EDGE” (CW21‑9) and “ROAD WORK XX MPH” (CW20‑1a) signs as shown. Use an “XX” value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

For all other moving operations that do not create an abrupt edge adjacent to traffic, omit the “ABRUPT EDGE” signs.

Remove all inappropriate roll-up signs at the end of each shift.

(Use the following lead-in paragraph and subsections .41(g) when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer. The Approval Letter allows you to include sign quantities and determine recommended locations in the Plans only (show signs as a blank sign with dashed outline, no legend). Do not draft specific temporary regulatory speed zone signs into the Plans. Exact signs and locations will be discussed during Pre-Construction Meeting when the actual Order is issued to the contractor.)

Add the following subsection:

**00225.41(g)  Temporary Speed Zone Reduction** - Install a temporary regulatory speed zone, as directed. Use regulatory signs for all required temporary speed zone signage.

(Use the following lead-in paragraph and subsection .41(h) only on preservation projects that include a pilot car in the bid schedule.)

Add the following subsection:

**00225.41(h)  Wait For Pilot Car Signs** - For each location of the "WAIT FOR PILOT CAR" sign, closely monitor for traffic compliance, operation, and safety at least once per hour during pilot car operations. If operational issues are observed, or if notified of operational issues, at stop-controlled accesses or side roads utilizing the "WAIT FOR PILOT CAR" (CR4‑20) sign, remove the sign and replace it with a flagger.

(Use the following subsection .42(c) when temporary barrier and appurtenances are required.)

**00225.42(c)  Concrete Barrier and Appurtenances** - Replace the title of this subsection with “**Temporary Barrier and Appurtenances”**

(Use the following subsection .42(c)(1) when temporary barrier is required.)

**00225.42(c)(1)  Concrete Barrier** - Replace this subsection with the following subsection:

**00225.42(c)(1)  Temporary Barrier** - Connect all temporary barrier sections together according to the following:

* Concrete Barrier per the Standard Drawings

Temporary Barrier per manufacturer’s recommendations.

When placing barrier adjacent to a Traffic Lane, maintain a minimum of 24 inches from the face of the barrier to the edge of the Traffic Lane, or as shown or directed. Flare the leading end as shown in the table below and treat ends as shown on the Plans.

 **Speed (mph) Flare Rate**

 70 20:1

 65 19:1

 60 18:1

 55 16:1

 50 14:1

 45 12:1

 40 10:1

 35 9:1

 < 30 8:1

Secure temporary barrier to bridge decks according to the ODOT Bridge Design Manual or as shown.

Keep the 3 feet of space behind temporary barrier clear. Keep 1 foot of space behind minimum deflection temporary barrier, clear. Secure concrete barrier used for minimum deflection to Surfacing according to the Standard Drawings. Secure all other temporary barriers to Surfacing according to the manufacturer’s recommendations.

When the clear area distance behind the barrier is less than 3 feet, use minimum deflection temporary barrier.

Place temporary barrier and minimum deflection temporary barrier on smooth, solid surfacing. Maintain smooth, solid surfacing for the clear area behind temporary barrier.

(Use the following subsection .42(c)(2) when reflective barrier panels are required.)

**00225.42(c)(2)  Reflective Barrier Panels** - Replace this subsection, except for the subsection number and title with the following:

**00225.42(c)(2)  Reflective Barrier Panels** - Install reflective barrier panels on temporary barrier as shown or directed and as follows:

* Install a panel every 6 feet.

Maintain a 4-foot gap between panels on each barrier section.

Alternate silver-white and fluorescent orange color panels.

Attach the panels to the face of the temporary barrier with a minimum of four anchors.

Install panels so the bottom edge is 20 inches above the bottom of the temporary barrier.

(Use the following subsection .42(c)(3) when temporary barrier with glare shields are required.)

**00225.42(c)(3)  Glare Shields** – Replace the bullet that begins " Repair any damage to the concrete barrier …" with the following bullet:

Repair any damage to the temporary barrier caused by the Contractor's operations at no additional cost to the Agency.

Replace the bullet that begins "Firmly attach the base plate anchor bolts …" with the following bullet:

Firmly attach the base plate anchor bolts to the temporary barrier to withstand a 1,000 pound vertical pull and to prevent horizontal and rotational displacement. Maximum spacing between anchor bolts on modular units shall be 30 inches.

(Use the following subsection .42(d) when temporary impact attenuators are required.)

**00225.42(d)  Impact Attenuators** - Add the following bullet and sub-bullets to the end of the bullet list:

* For water-filled impact attenuators, use one of the following anti-freezing solutions to fill the impact attenuator:

25% Liquid Calcium Magnesium Acetate (CMA), 75% water solution, by volume

60% Liquid Potassium Acetate, 40% water solution, by volume

(Use the following lead-in paragraph and subsection .42(g) when using bicycle channelizing devices on a project.)

Add the following subsection:

**00225.42(g)  Bicycle Channelizing Devices** - Install bicycle channelizing devices as shown. Provide a continuous route by interconnecting all adjacent BCD. Provide a clean unobstructed path according to 00220.02.

(Use the following lead-in paragraph and subsection .42(h) when Temporary Glare Screens are required.)

Add the following subsection:

**00225.42(h)  Temporary Glare Screens** - Install temporary glare screens as shown or directed, and according to the following:

* Install according to manufacturer’s instructions.

Install vertical and true to line.

Install using a QPL approved pipe from the same manufacturer as the temporary glare screen.

Install on concrete barrier by drilling holes as shown and placing the manufacturer's QPL approved pipe in the holes. Submit for approval, in writing, any other proposed method of installation.

Immediately repair any temporary barrier segment that is damaged during temporary glare screen installation at no additional cost to the Agency.

Do not install on permanent bridge rail or permanent bridge barrier.

Temporary glare screens that are installed in a continuous run shall be from the same manufacturer and of like appearance throughout the entire installation.

For any segment of concrete barrier that will be used for permanent installations, fill holes and repair according to Section 00820 after removing the temporary glare screen.

(Use the following subsection .43(d) when temporary barrier or temporary guardrail and delineators are required.)

**00225.43(d)  Delineators** - Replace the paragraph that begins " Install traffic delineators as shown or as directed. Install…" with the following paragraph:

Install traffic delineators as shown or as directed. Install delineators on temporary barrier and temporary guardrail as follows:

(Use the following subsection .43 on chip seal "Emulsified Asphalt Surface Treatment" (Section 00710 or 00715) projects, or on Level 1, 2, or 3 ACP Overlay (00744 or 00745) Preservation projects)

**00225.43(e)  Pavement Markers** - Replace the paragraph that begins "Unless otherwise shown..." and the three bullets with the following paragraphs and bullets:

(Use one of the following two options as instructed. Deleted the option that does not apply.)

[ Option 1 - Use the following paragraphs and bullet lists on Chip Seal "Emulsified Asphalt Surface Treatment" (00710 or 00715) projects, provided the following criteria are met:

* Compile Field Data Summary
* ADT < 5,000 for roadways with posted speed > 45 mph
* ADT < 10,000 for roadways with posted speed ≤ 45 mph
* Federally funded projects require FHWA approval ]

Install temporary flexible oiling pavement markers for temporary centerline marking as follows:

* Place and maintain one temporary flexible oiling pavement marker on 40-foot spacing in tangent and curve sections except as below.

Place and maintain one temporary flexible oiling pavement marker on 20-foot spacing in curved alignment sections identified by a speed rider displaying less than the posted speed and channelization areas.

Establish alignment for placing the temporary flexible oiling pavement markers as follows:

* Control markers at:

200‑foot intervals on tangents

50‑foot intervals on curves

40‑foot intervals on curves with speed rider

Use string line or other appropriate means to maintain proper alignment of the markers. Adjust placement to avoid straddling a longitudinal joint, while maintaining a suitable alignment of markers.

Remove and replace misaligned markers at no additional cost to the Agency.

[ End Option 1 ]

[ Option 2 - Use the following paragraphs and bullet lists on Level 1, 2, or 3 ACP Overlay (00744 or 00745) Preservation projects, provided the following criteria are met:

* Perform and/or document enough traffic analysis to confirm traffic volumes meet the following criteria:
* ADT < 5,000 for roadways with posted speed > 45 mph
* ADT < 10,000 for roadways with posted speed ≤ 45 mph ]

Install temporary flexible overlay pavement markers for temporary centerline marking as follows:

* Place and maintain one temporary flexible overlay pavement marker on 40 foot spacing in tangent and curve sections except as below.

Place and maintain one temporary flexible overlay pavement marker on 20 foot spacing in curved alignment sections identified by a speed rider displaying less than the posted speed and channelization areas.

Establish alignment for placing the temporary flexible overlay pavement markers as follows:

* Control markers at:

200 foot intervals on tangents

50 foot intervals on curves

40 foot intervals on curves with speed rider

Use string line or other appropriate means to maintain proper alignment of the markers. Adjust placement to avoid straddling a longitudinal joint, while maintaining a suitable alignment of markers.

Remove and replace misaligned markers at no additional cost to the Agency.

[ End Option 2 ]

(Use the following subsection .43(e)(2) on Chip Seal "Emulsified Asphalt Surface Treatment" (00710 or 00715) projects, provided the following criteria are met:

* Compile Field Data Summary
* ADT < 5,000 for roadways with posted speed > 45 mph
* ADT < 10,000 for roadways with posted speed ≤ 45 mph
* Federally funded projects require FHWA approval)

**00225.43(e)(2)  Flexible Oiling Pavement Markers** - Add the following paragraphs to the end of this subsection:

Remove the markers on underlying surfaces before placing the next full Lift of paving that would obliterate the marker.

Use flexible oiling pavement markers with double covers, as directed, when a surface treatment requires two oil applications for a single Pavement Lift. Remove the marker covers, as directed, before reopening the Roadway to traffic.

(Use the following subsection .43(g)(1) when temporary barrier on base courses are required.)

**00225.43(g)(1)  Base Courses** - In the paragraph that begins "Before opening a Traffic Lane on a Base Course…" replace the words “temporary concrete barrier” with the words “temporary barrier”.

In the paragraph that begins "Before opening a Traffic Lane adjacent to temporary…" replace the words “temporary concrete barrier” with the words “temporary barrier”.

(Use the following subsection .43(g)(2) when temporary barrier on a wearing course is required.)

**00225.43(g)(2)  Wearing Course** - In the paragraph that begins "Before opening a Traffic Lane on a wearing Course…" replace the words “temporary concrete barrier” with the words “temporary barrier”.

In the paragraph that begins "Before opening a Traffic Lane on a wearing Course …" replace the words “temporary concrete barrier” with the words “temporary barrier”.

(Use the following subsection .43(h) when temporary barrier with pavement edge delineation is required.)

**00225.43(h)  Pavement Edge Delineation** – In the sentence that begins " If the left Shoulder is less than 8 feet wide …" replace the words “concrete barrier” with the words “ barrier”.

(Use the following lead-in paragraph and subsection .43(k) only when an “Approval Letter” has been received from the State Traffic Engineer for the use of temporary transverse rumble strips on a State highway.)

Add the following subsection:

**00225.43(k)  Temporary Transverse Rumble Strips** - Place and maintain temporary transverse rumble strips across the travel lane as shown or directed. Do not place rumble strips across surfaces used by bicycles.

(Use the following subsection .44(b) when Temporary Illumination is required.)

**00225.44(b)  Temporary Illumination** - Replace the sentence that begins "Construct and remove temporary…" with the following sentence:

Construct and remove temporary illumination according to the Plans and Sections 00950, 00960, 00970, and 02926.

(Use the following subsection .44 only when vehicular traffic will be passing beneath falsework.)

**00225.44(b)  Temporary Illumination** - Add the following paragraph to the end of this subsection:

Install 25‑watt, steady-burning, amber lights on 36‑inch spacing around the perimeter of the falsework as shown, facing oncoming traffic.

(Use the following subsection .45(a) when Temporary Traffic Signals are required.)

**00225.45(a)  Temporary Traffic Signals** - Replace the sentence that begins "Construct, adjust, and remove…" with the following:

Construct, adjust, and remove temporary traffic signals according to the Plans, Sections 00950, 00960, 00990, and the following:

(Use the following subsection .45(a)(3) when Temporary Traffic Signals are required.)

**00225.45(a)(3)  Wood Poles** - Add the following sentence to the end of the paragraph:

Bond all metallic conduit messenger cable, terminal cabinet, and other metallic parts within 10 feet of the ground line.

(Use the following subsection .45(c) when Existing Traffic Signals will need to be adjusted.)

**00225.45(c)  Existing Traffic Signals** - Replace the sentence that begins "Adjust existing traffic signals…" with the following:

Adjust existing traffic signals according to the Plans and Sections 00950, 00960, and 00990.

(Use the following subsection .46(b) when PCMS are required. Delete “(s)” or parentheses, as applicable.)

**00225.46(b)  Portable Changeable Message Signs (PCMS)** - Add the following bullets to the end of the bullet list:

* Type B, Mini PCMS use is limited to locations where the preconstruction posted speed is 40 mph or less.

(Use the following two bullets when longitudinal paving operations are included in the scope of work and Speed Reduction measures (as shown on Standard Drawing TM880) are required.)

* During paving operations, provide one 2-line PCMS on the finish roller. Display the following messages on the PCMS:

 **Panel 1** **Panel 2**

 WORKERS SLOW TO

 IN ROAD XX MPH

* During paving operations, provide one 2-line PCMS on the intermediate roller. Display the following messages on the PCMS:

 **Panel 1 Panel 2**

 SLOW FOR WORKERS

 WORKERS IN ROAD

(Use the following bullet when a PCMS is used in advance of a roadway closure or ramp closure. Fill in the blank with the name of the road that will be closed. Modify the PCMS messages to reflect the name of the road that will be closed and the time frame for the closure.)

* At least seven Calendar Days before the \_\_\_\_\_\_ closure, place one or more PCMS displaying the following message as shown, or as directed:

 **Panel 1 Panel 2**

 (Name/# of highway) CLOSURE

 (Location) (Time Frame)

 CLOSURE (Time Frame)

(Use the following lead-in paragraph and subsection .46(d) when including a Radar Speed Trailer on the project, or when Speed Reduction measures (as shown on Standard Drawing TM880) are required.)

Add the following subsection:

**00225.46(d)  Radar Speed Trailers** - Provide and install radar speed trailers according to the Plans and the following:

* Place and delineate according to the Flagger Station Lighting Delineation detail as shown on the Standard Drawings, or as directed.

Operate radar speed modes and set speed thresholds as directed and as follows:

Use an over speed threshold equal to the posted speed on the radar speed trailer.

Use a blackout speed threshold of 85 mph, which does not allow the radar speed trailer to display a speed or message when the measured speed exceeds 85 mph.

Program to display the over speed message as follows, or as approved by the Engineer:

 SLOW

 DOWN

Ensure that the over speed message is displayed when the measured vehicle speeds exceed the posted speed mounted on the radar speed trailer but do not exceed the blackout speed threshold.

Provide speed and event logging data to the Engineer at the completion of the Project, in a format compatible with Microsoft Excel.

When not actively displaying speeds, remove from the Roadway and locate the radar speed trailer at least 30 feet from the nearest open Traffic Lane, behind a barrier system, or as directed.

(Use the following bullet only when Speed Reduction Measures are required.)

Place a radar speed trailer approximately 1000 feet beyond the end of the lane closure taper, as shown on Standard Drawing TM880

(Use the following bullet for projects on freeways, and when a Speed Zone Order will be included in the TCP or Speed Reduction Measures are required.)

Install a 30 by 36-inch “SPEED LIMIT XX” (R2‑1) sign below the trailer display panel. The “XX” value is determined by a Speed Zone Order signed by the State Traffic Engineer.

(Use the following bullet for projects on freeways when using the Radar Speed Trailer with advisory speed signing. Fill in the blank with a value for “XX” between 10 and 20 mph below the regulatory posted speed for the Work Zone. Contact the Traffic Control Plans designer.)

Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign below the trailer display panel. Use a value of \_\_\_\_\_ for “XX” on the sign

(Use the following bullet for projects on non-freeways, and when a Speed Zone Order will be included in the TCP or Speed Reduction Measures are required.)

Install a 30 by 36-inch “SPEED XX” (OR2‑1) sign below the trailer display panel. The “XX” value is determined by a Speed Zone Order signed by the State Traffic Engineer.

(Use the following bullet for projects on non-freeways when using the Radar Speed Trailer with advisory speed signing. Fill in the blank with a value for “XX” between 10 and 15 mph below the regulatory posted speed for the Work Zone. Contact the Traffic Control Plans designer.)

Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign below the trailer display panel. Use a value of \_\_\_\_\_ for “XX” on the sign.

(Use the following bullets when Speed Reduction Measures are required and the moving operations involve longitudinal paving on a freeway.)

When the paving machine reaches a location that is approximately 1/2 mile beyond the start of the work shift paving operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign above or below the trailer display panel. Use a “XX” value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following bullet when Speed Reduction Measures are required and the moving operations involve longitudinal paving on non-freeways.)

When the paving machine reaches a location that is approximately 1/2 mile beyond the start of the work shift paving operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign above or below the trailer display panel. Use a “XX” value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(When Speed Reduction Measures are required, a temporary speed zone reduction is to be included in the TCP, and the project includes moving, non‑paving‑related activities, (e.g. barrier replacement, cable barrier installation, guardrail work, etc.) include one of the following bullets, as applicable.)

[ For projects on freeways, use the following bullet. ]

When the Work Area for the \_\_*(brief work description from subsection .02(a))*\_\_ extends approximately 1/2 mile beyond the start of the operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign above or below the trailer display panel. Use a “XX” value equal to 15 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

[ For projects on non-freeways, use the following bullet. ]

When the Work Area for the \_\_*(brief work description from subsection .02(a))*\_\_ extends approximately 1/2 mile beyond the start of the operations, place a second radar speed trailer as shown on Standard Drawing TM880. Install a 36 by 36-inch “ROAD WORK XX MPH” (CW20‑1a) sign above or below the trailer display panel. Use a “XX” value equal to 10 mph below the current posted regulatory speed. If a speed is posted for a temporary regulatory speed reduction, that speed is the current posted regulatory speed.

(Use the following lead in paragraph and subsection .46(e) when an Automated Flagger Assistance Device is required.)

Add the following subsection:

**00225.46(e)  Automated Flagger Assistance Device** - Use the AFAD to control traffic through the Work Zone and as follows:

* Position the AFAD operator’s control location a safe distance from traffic.

Install and operate the AFAD according to the manufacturer’s instructions and as shown in the Plans.

Do not use the AFAD to control more than one lane of approaching traffic. If necessary, close additional traffic lanes, left turn lanes or right turn lanes approaching the AFAD to limit approaching traffic to one lane.

Provide illumination when using an AFAD during nighttime hours. AFAD illumination shall meet the following requirements:

Illuminates the AFAD so the AFAD is visible and discernable as an AFAD from a distance of 1,000 feet.

Illuminates the AFAD from above at a height of 18 feet + 3 feet.

The light is shielded from approaching traffic.

Do not use an AFAD to replace a continuously operating temporary traffic control signal. The Engineer may order adjustments to the operation of the AFAD or substitute flagging for the AFAD based on traffic delay, field conditions, and safety concerns.

When providing an AFAD for each direction of traffic, use AFADs of the same type and from the same manufacturer.

When an AFAD is not in use during a work shift either turn it off or switch the yellow lens to flash mode. When the AFAD is not in use for more than one work shift, remove it and all accompanying signing from the roadway.

(Use the following subsection .47 when temporary curb ramps and Temporary Walks are required.)

**00225.47  Temporary Sidewalk Ramps** - Replace the title of this subsection with “**Temporary Curb Ramps and Temporary Walks”**

Add the following paragraph to the end of this subsection.

Construct Temporary Walks as shown or directed. Repair or reconstruct unacceptable Temporary Walks before opening to pedestrian traffic.

(Use the following .48(a) subsection if a flagger is to be used to provide pedestrian guidance through the TPAR during flagging operations.)

**00225.48(a)  Flaggers**- Add the following to the end of this subsection:

Direct pedestrians to wait for flagger instructions. Stop and hold motor vehicle traffic to allow pedestrians to enter the TPAR or exit the TPAR. Pedestrians must be clear of all traffic lanes before flaggers release motor vehicle traffic.

If a TPAR is designed and installed with a width less than 5 feet, and 5 foot by 5 foot passing spaces at 200 foot intervals are not provided, inform pedestrians of the narrowed TPAR. Before allowing pedestrians in wheelchairs or similar devices to use the TPAR, direct the flagger at the opposite end of the TPAR to stop and hold opposing pedestrian traffic until the pedestrian in the wheelchair has reached the other end of the narrowed TPAR.

(Use the following lead-in paragraph and subsection .48(c) when BPA is listed as a Utility with anticipated conflicts in 00150.50(g) and when requested by the Utility Coordinator.)

Add the following subsection

**00225.48(c)  BPA Safety Watchers** - Furnish BPA safety watchers when and where required according to 00150.50(g). BPA safety watchers are responsible for limiting the movement of personnel and/or equipment to prevent electrical contact accidents.

BPA safety watchers have the authority to halt the operation whenever any unsafe act or condition is imminent.

(Use the following lead-in paragraph and subsection .48(d) when RailPros Railroad flaggers are required on UPRR railroad. Check with the State Utility and Railroad Liaison.)

Add the following subsection:

**00225.48(d)  Railroad Flagger Services** - In accordance with the Railroad's requirements to work on and within Railroad property, when Railroad flagger services are required provide Railroad flagger services through RailPros Field Services, according to 00225.34.

(Use the following subsection .49 when a Pedestrian Transport Vehicle or Tow Truck is required in the Project.)

**00225.49  Pilot Cars**- Replace this subsection with the following subsection:

**00225.49  Work Zone Vehicles**– Safely operate pilot cars, pedestrian transport vehicles and tow trucks at a prudent speed and as follows:

(Use the following subsection .49(a) when Pilot Cars are included in the Project.)

**(a)  Pilot Cars** - Do not exceed posted regulatory speeds, or temporary advisory speeds.

(Use the following subsection .49(b) when a Pedestrian Transport Vehicle is included in the Project.)

**(b)   Pedestrian Transport Vehicle**- Follow the pilot car or the pilot car queue through the Work Zone. Safely pull the transport vehicle off the roadway traffic lane or into a closed traffic lane to load or unload passengers and bicycles in designated areas identified under 00225.32.

(Use the following subsection .49(c) when a Tow Truck is included in the Project.)

**(c)  Tow Truck** -  Position the tow truck in a location as directed. Use the tow truck to remove disabled vehicles from the traffic lanes as needed. Tow the vehicles to the nearest off-ramp and out of traffic, or to an alternate site previously arranged with the Engineer. Return the tow truck immediately to the assigned station.

(Use the following subsection .62(a) when temporary barrier and guardrail is required.)

**00225.62(a)  Temporary Concrete Barrier and Guardrail** - Replace the title of this subsection with “**Temporary Barrier and Guardrail”**

Replace the sentence that begins “Immediately repair any concrete barrier segment…" with the following paragraph:

Immediately repair any temporary barrier segment or guardrail element that is damaged by the Contractor during or after placement.

(Use the following subsection .62(b) when a truck-mounted attenuator is required.)

**00225.62(b)  Temporary Impact Attenuators** - Add the following paragraph to the end of this subsection:

Repair of damage to support vehicles on which TMAs are mounted will be at no additional cost to the Agency.

(Use the following lead-in paragraph and subsection .62(c) when Temporary Glare Screens are required.)

Add the following subsection:

**00225.62(c)  Temporary Glare Screens** - Immediately replace or repair any temporary glare screen segment that is damaged. Repair to the Engineer’s satisfaction or replace with an undamaged segment. If the temporary glare screen segment is damaged by the Contractor, repair or replace at no additional cost to the Agency.

(Use the following subsection .66 when a Radar Speed Trailer is required or when Speed Reduction Measures are required.

**00225.66  Portable Electrical Signs** - Replace this subsection, except for the subsection number and title, with the following:

Maintain and use the required PCMS, radar speed trailers, and sequential arrow signs according to the manufacturer's recommendations, TCP, and as required. Do not display or alter any sign message before it is approved.

While PCMS, radar speed trailers, and sequential arrow signs are in use, have repair Equipment and parts on the Project site, as recommended by the manufacturer.

When directed, repair or replace sequential arrow signs, radar speed signs, and PCMS that are damaged or destroyed before continuing Work that requires use of the signs.

(Use the following subsection .67 when temporary curb ramps and Temporary Walks are required.)

**00225.67  Temporary Sidewalk Ramps** - Replace this subsection with the following subsection:

**00225.67  Temporary Curb Ramps and Temporary Walks**- Inspect and maintain temporary curb ramps and Temporary Walks for:

* Any damaged curb ramp or walk surfaces.

Ramp and walk alignment or connections to existing sidewalks or Roadway surfaces.

Compliance with the dimensions and grades in the Standard Drawings or requirements approved by the Engineer.

Items identified by the manufacturer’s recommendations.

Other ramp or walk quality or performance issues, as directed.

Keep ramps and walks unobstructed. Maintain a firm, stable, and slip resistant surface free of debris.

After completion of the Work, restore the area on which the temporary curb ramp or Temporary Walk occupied as directed.

(Use the following lead-in paragraph and subsection .68 only when an “Approval Letter” has been received from the State Traffic Engineer for the use of temporary transverse rumble strips on a State highway.)

Add the following subsection:

**00225.68  Temporary Transverse Rumble Strips** - Maintain, reposition, and replace temporary transverse rumble strips as shown or directed.

(Use the following lead in paragraph and subsection .69 when an Automated Flagger Assistance Device is required.)

Add the following subsection:

**00225.69  Automated Flagger Assistance Device** - When repairs or replacement of the AFAD are required, take the device out of service. Use flaggers until repairs are complete and the AFAD is re-installed and operational.

(Use the following subsection .81 for all Freeway and high-speed, multi-lane projects or when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer.)

**00225.81  Temporary Signing** -

(Use the following two paragraphs for all Freeway and high-speed, multi-lane projects.)

Add the following sentence to the end of the paragraph that begins "The quantities of temporary signs will…":

No measurement of quantities will be made for “CONSTRUCTION VEHICLE DO NOT FOLLOW” (CW23-14) signs.

(Use the following paragraph when a "Support Letter" for a temporary speed zone order has been received from the State Traffic Engineer.

Estimate the worst case square feet of temporary signage required for your application and include this quantity in the pay item, "Temporary Signs".)

Examples:

2-lane, 2-way highway, basic rule,

 4 signs required = 80 sq. ft.

2-lane, 2-way highway, existing posted speed,

 6 signs required = 120 sq. ft.

Divided freeway, one direction, existing posted speed,

 5 signs required = 100 sq. ft.

Freeway, both directions, existing posted speed,

 10 signs required = 200 sq. ft.)

Temporary signing quantities include temporary regulatory speed zone signage.

(Use the following subsection .82(b) when temporary barrier on guardrail is required.)

**00225.82(b)  Guardrail**  **and Concrete Barrier** - Replace the title of this subsection with “**Guardrail and Temporary Barrier”**

(Use the following subsection .82(b)(2) when temporary guardrail end pieces and anchors are required.)

**00225.82(b)(2)  Guardrail, Terminals, Transitions, and Bridge Connections** ‑ Replace this subsection with the following:

**00225.82(b)(2)  Guardrail, Terminals, Transitions, End Pieces, Anchors, and Bridge Connections** ‑ Temporary guardrail terminals, temporary guardrail transitions, temporary guardrail end pieces, temporary guardrail anchors, temporary guardrail connections and temporary Bridge connections will be measured on the unit basis.

(Use the following subsection .82(b)(3) when temporary barrier is required.)

**00225.82(b)(3)  Concrete Barrier** - Replace this subsection with the following subsection:

**00225.82(b)(3)  Temporary Barrier** ‑ Temporary barrier, minimum deflection temporary barrier, and moving temporary concrete barrier will be measured on the length basis, measured from end to end of the barrier, including barrier transitions, along the line and grade of each run.

The estimated quantity of temporary barrier is:

|  |  |  |  |
| --- | --- | --- | --- |
| Stage/Phase | Location | Temporary Barrier | Minimum Deflection, Temporary Barrier |
|  |  |  |  |
|  |  |  |  |

(Use the following lead-in paragraph and subsection .82(e) when using bicycle channelizing devices on a project.)

Add the following subsection:

**00225.82(e)  Bicycle Channelizing Devices** - The quantities of bicycle channelizing devices will be measured on the length basis, determined by measuring from end to end of the devices along the line and grade of each separate run.

(Use the following lead-in paragraph and subsection .82(f) when Temporary Glare Screens are required.)

Add the following subsection:

**00225.82(f)  Temporary Glare Screens** - The quantities of temporary glare screens and moving temporary glare screens will be measured on the length basis, determined by measuring from end to end of the devices, as installed on temporary barrier along the line and grade of each separate run.

(Use the following lead-in paragraph and subsection .83(e) only when an “Approval Letter” has been received from the State Traffic Engineer for the use of temporary transverse rumble strips on a State highway.)

Add the following subsection:

**00225.83(e)  Temporary Transverse Rumble Strips** - Temporary transverse rumble strips will be measured on the length basis, determined by measuring the actual length of temporary transverse rumble strips complete and in place.

(Use the following subsection .84(a) only when substantial flagger hours are not anticipated and flagger station lighting is incidental.)

**00225.84(a)  Flagger Station Lighting** - Replace this subsection, except for the subsection number and title, with the following:

No measurement will be made for flagger station lighting.

(Use the following subsection .86(b) when Speed Reduction Measures are required.)

**00225.86(b)  Portable Changeable Message Signs** - Add the following sentence to the end of this subsection:

PCMS installed on finish rollers or intermediate rollers will be measured on the unit basis.

(Use the following lead-in paragraph and subsection .86(c) when a Radar Speed Trailer is required or when Speed Reduction Measures are required.)

Add the following subsection:

**00225.86(c)  Radar Speed Trailers** - Radar speed trailers will be measured on the unit basis, when the devices are initially installed on the Project.

(Use the following lead in paragraph and subsection .86(d) when an Automated Flagger Assistance Device is required.)

Add the following subsection:

**00225.86(d)  Automated Flagger Assistance Device** - Automated flagger assistance devices (AFAD) will be measured on the unit basis, where the devices are initially installed on the Project.

The automated flagger assistance device operator will be measured as a flagger according to 00225.88(a).

(Use the following subsection .87 when temporary curb ramps and Temporary Walks are required.)

**00225.87  Temporary Sidewalk Ramps** - Replace this subsection, with the following subsection:

**00225.87  Temporary Curb Ramps and Temporary Walks**- Temporary curb ramps will be measured on the unit basis.

Temporary Walks will be measured on the area basis limited to the neat lines as shown or directed.

(Use the following subsection .88(a) only when substantial flagger hours are not anticipated and flaggers are incidental.)

**00225.88(a)  Flaggers** - Replace this subsection, except for the subsection number and title, with the following:

No measurement will be made for flaggers.

(Use the following subsection .88(b) when Speed Reduction Measures are required.)

**00225.88(b)  Traffic Control Supervisor** - Add the following bullet to the end of the bullet list:

Freeway or Divided Highway Speed Reduction (Paving Operations) according to TM880 is active.

(Use the following lead-in paragraph and subsection .88(c) when BPA is listed as utility with anticipated conflicts in 00150.50(g) and when requested by the Utility Coordinator.)

Add the following subsection:

**00225.88(c)  BPA Safety Watchers** - BPA Safety Watchers will be measured on the time basis, of the actual number of hours BPA Safety Watchers are staffed as required according to 00150.50(g).

(Use the following lead-in paragraph and subsection .88(d) when RailPros Railroad flaggers are required on UPRR railroad. Check with the State Utility and Railroad Liaison.)

Add the following subsection:

**00225.88(d)  Railroad Flagger Services** - The quantity of Railroad flagger services will be measured on the unit basis. A unit will be considered to be up to 12 consecutive hours in a Day. A maximum of two units will be allowed per Day unless otherwise approved.

(Use the following lead-in paragraph and subsection .89 when a Pedestrian Transport Vehicle or a Tow Truck is required. Delete the item from the subsection that does not apply, but do not change the alpha characters next to the title.)

**00225.89  Pilot Cars** - Replace this subsection with the following subsection:

**00225.89  Work Zone Vehicles**-

**(a)  Pilot Car -**The quantity for pilot cars will be measured on the time basis, of the actual number of hours pilot cars are operated.

**(b)  Pedestrian Transport Vehicle** - The quantity for pedestrian transport vehicles will be measured on the time basis, of the actual number of hours pedestrian transport vehicles are operated.

**(c)  Tow Truck** - The quantity for tow trucks will be measured on the time basis, of the actual number of hours tow trucks are operated.

(Use the following subsection .90(a)(2) when any of the following apply:

* For all Freeway and high‑speed, multi‑lane projects
* When pole base excavation covers are required
* Vehicular traffic will be passing beneath falsework
* When temporary guardrail end pieces and anchors are required

Delete "(s)" or parentheses as applicable.)

**00225.90(a)(2)  Temporary Protection and Direction of Traffic** – Replace the bullet that begins “Providing, Surfacing, maintaining, removing…” with the following bullet:

* Providing, Surfacing, maintaining, removing, and restoring the TPAR.

Replace the bullet that begins “Moving temporary concrete barrier to and…” with the following bullet:

Moving temporary barrier to and from Contractor’s stockpile areas.

Delete the bullet that begins “Providing, moving, reinstalling, and removing guardrail……”.

Add the following bullet***(***s***)*** to the end of the bullet list:

(Use the following bullet for all Freeway and high-speed, multi-lane projects.)

* Furnishing, installing, and maintaining 72 by 24-inch "CONSTRUCTION VEHICLE DO NOT FOLLOW" (CW23‑14) signs.

(Use the following bullet when pole base excavation covers are required.)

Furnishing, placing, maintaining, moving, and removing pole base excavation covers.

(Use the following bullet when vehicular traffic will be passing beneath falsework.)

Providing electrical power and furnishing, placing, maintaining, adjusting, and removing temporary falsework illumination.

(Use the following subsection .91 to limit the number of signs paid for when a project contains multiple Work Zones. Delete "(s)" or parentheses as applicable.)

**00225.91  Temporary Signing** - Add the following to the end of this subsection:

Payment will be made for not more than \_\_\_\_\_ set***(***s***)*** of Work Area signs. All additional sets of Work Area signs will be at no additional cost to the Agency.

(Use the following subsection .92 when temporary impact attenuators, bicycle channelizing devices, temporary glare screens, temporary guardrail end pieces, temporary guardrail anchors, or a truck‑mounted attenuator are required.)

**00225.92  Temporary Barricades, Guardrail, Barrier, Attenuators, and Channelizing Devices** -

(Delete the pay item(s) from the list that are not included in the Schedule of items, but do not change the alpha characters next to the pay items. Delete the “(s)” or parentheses from the word “item(s)” as appropriate)

Replace pay item***(***s***)*** (f) (g) and (h) with the following pay item***(***s***)***:

 (f) Temporary Barrier Foot

 (g) Minimum Deflection Temporary Barrier Foot

 (h) Moving Temporary Barrier Foot

Delete Pay Item (i) from the pay item list.

(Use the following paragraph and pay items when bicycle channelizing devices temporary glare screens, temporary guardrail end pieces, or temporary guardrail anchors, are required. Delete pay items that do not apply, and delete "(s)" or parentheses as applicable.)

Add the following pay item***(***s***)*** to the pay item list:

 (q) Bicycle Channelizing Devices Foot

 (r) Temporary Glare Screens Foot

 (s) Moving Temporary Glare Screens Foot

 (t) Temporary Guardrail End Pieces Each

 (u) Temporary Guardrail Anchors Each

(Use the following paragraphs when Items (f) and (g) are required.)

Replace the paragraph that begins “Items (f) and (g) include Type 5 delineators” with the following paragraph:

Items (f) and (g) include Type 5 delineators, including removing and replacing Type 5 delineators on the barriers, as necessary. This also includes furnishing, installing, connecting, securing, unsecuring, and maintaining temporary barrier, including minimum deflection temporary barrier.

Replace the paragraph that begins "Item (h) includes moving temporary concrete…" with the following paragraph:

Item (h) includes installing, connecting, intermediate moving or resetting, securing, unsecuring, and maintaining temporary barrier. Moving temporary barriers, regardless of size or type, from one location of actual use to another location of actual use, regardless of whether the barrier was moved to and from the Contractor's stockpile area as part of the move, and for removing and replacing Type 5 delineators on the barriers, as necessary. Moving temporary barrier to and from the Contractor's stockpile areas will be paid according to 00225.90(a)(2).

Delete the paragraph that begins " Item (i) includes securing temporary concrete…"

(Use the following three paragraphs when temporary glare screens are required.)

Add the following paragraphs after the paragraph that begins "Item (o) includes…":

Item (r) includes furnishing, installing, and removing temporary glare screens.

Item (s) includes moving the temporary glare screens from one location of actual use to another location of actual use on the temporary barrier.

(Use the following two paragraphs when temporary impact attenuators are required.)

Replace the paragraph that begins "No separate or additional payment will be made for temporary impact attenuator…" with the following paragraph:

No separate or additional payment will be made for temporary impact attenuator replacements, replacement modules, cartridges, components, anti-freezing solution, or replacement parts that are required to be on hand according to 00225.62(b) or for cleaning and removing debris from impacts.

(Use the following two paragraphs when a truck‑mounted attenuator is required.)

Add the following paragraph to the end of this subsection:

No separate or additional payment will be made for moving TMAs or for repair of damage to support vehicles on which TMAs are mounted.

(Use the following subsection .93 only when an “Approval Letter” has been received from the State Traffic Engineer for the use of temporary transverse rumble strips on a State highway.)

**00225.93  Temporary Traffic Delineation** - Add the following pay item to the pay item list:

 (p) Temporary Transverse Rumble Strips Foot

Add the following paragraph to the end of this subsection:

No separate or additional payment will be made for relocating, repositioning, or removing temporary rumble strips.

(Use the following subsection .94 only when substantial flagger hours are not anticipated and flagger station lighting is incidental.)

**00225.94  Work Zone Lighting** - Delete Pay Item (a) from the pay item list.

Replace the paragraph that begins "Item (a) includes…" with the following paragraph:

No separate or additional payment will be made for flagger station lighting.

**00225.95  Traffic Signals**- Replace the sentence beginning with “No separate or additional payment will…” with the following paragraph:

No separate or additional payment will be made for:

* Removing and replacing damaged portable traffic signal
* Illumination and associated appurtenances shown on traffic signal poles.

(Use the following subsection .96 when a Radar Speed Trailer is required or when Speed Reduction Measures are required or when an Automated Flagger Assistance Device is required. Delete "(s)" or parentheses as applicable.)

**00225.96  Temporary Electrical Signs** - Add the following pay item***(***s***)*** to the pay item list:

 (c) Radar Speed Trailer Each

(Use the following pay item (d) when Speed Reduction Measures are required.)

 (d) Portable Changeable Message Signs, Roller Mounted Each

(Use the following pay item (e) when an Automated Flagger Assistance Device is required.)

 (e) Automated Flagger Assistance Device Each

(Use the following two paragraphs when pay item (d) is included in the pay item list.)

Replace the paragraph that begins "Items (a) and (b)…" with the following paragraph:

Items (a) and (b) include furnishing, mounting, operating, moving, and removing signs and supports, regardless of whether the signs are mounted on supports, trailers, vehicles, or Equipment. Payment for PCMS mounted on rollers will be made separately under payment for the item "Portable Changeable Message Signs, Roller Mounted".

Add the following paragraph***(***s***)*** to the end of this subsection.

(Use the following paragraph when pay item (c) is include in the pay item list.)

Item (c) includes furnishing, operating, moving, maintaining, and removing the radar speed trailer.

(Use the following paragraph when pay item (d) is included in the pay item list.)

Item (d) includes furnishing, mounting, operating, moving, maintaining, and removing the portable changeable message signs. No additional payment will be made for the roller or roller operator.

(Use the following paragraphs when pay item (e) is included in the pay item list.)

Item (e) includes furnishing, operating, maintaining, repairing, replacing moving and removing each AFAD device, regardless of size or type.

Replace the sentence beginning with “No separate or additional payment will…” with the following paragraph:

No separate or additional payment will be made for:

Removing and replacing damaged signs

AFAD replacement, repair, or for AFAD illumination.

The automated flagger assistance device operator will be paid for, as a flagger, according to 00225.98(a).

(Use the following subsection .97 when temporary curb ramps and Temporary Walks are required. Delete pay item(s) from the list that are not included in the Schedule of Items, but do not change the alpha characters next to the pay items.)

**00225.97  Temporary Sidewalk Ramps** - Replace this subsection with the following subsection:

**00225.97  Temporary Curb Ramps and Temporary Walks**-The accepted quantities of temporary curb ramps and Temporary Walks will be paid for at the Contract unit price, per unit of measurement, for the following items:

 Pay Item Unit of Measurement

 (a) Temporary Curb Ramp, \_\_\_\_\_\_\_ Each

 (b) Temporary Walks Square Foot

(Use the following paragraph when pay item (a) is included in the pay item list above)

The type of temporary curb ramp will be inserted in the blank.

(Delete the language in orange parentheses that does not apply and delete all orange parentheses.)

Payment for item ***(***(a)***)*** ***(***and***)*** ***(***(b)***)*** will be payment in full for furnishing, installing and maintaining each temporary curb ramp or Temporary Walks.

No separate or additional payment will be made for:

* Removing temporary curb ramps and Temporary Walks

Restoring the area on which the temporary curb ramp or Temporary Walk occupied

Materials

Surfacing

Other temporary curb ramp or Temporary Walk hardware

(Use the following subsection .98 only when substantial flagger hours are not anticipated and flaggers are incidental.)

**00225.98  Flaggers and Traffic Control Supervisors** - Replace this subsection, except for the subsection number and title, with the following:

(Use the following TCS Language when the bid schedule contains an item for a TCS)

[ Begin TCS Language ]

The accepted quantities of traffic control supervisors will be paid for at the Contract unit price, per unit of measurement, for the following items:

 Pay Item Unit of Measurement

 (b) Traffic Control Supervisor Each

Item (b) includes vehicle and Equipment.

Payment for the item "Traffic Control Supervisor" performed beyond the quantity shown in the Contract Schedule of Items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional Work will be made according to 00195.20.

[ End TCS Language ]

No separate or additional payment will be made for flaggers.

(Use the following lead-in paragraph and subsection .98(a) when BPA is listed as a Utility with anticipated conflicts in 00150.50(g) and when requested by the Utility Coordinator.)

Add the following subsection:

**00225.98(a)  BPA Safety Watchers** - The accepted quantities of BPA safety watchers will be paid for at the Contract unit of price, per hour, for the item "BPA Safety Watcher".

Payment for the item "BPA Safety Watcher" performed beyond the quantity shown in the contract Schedule of items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the work as determined according to Section 00197.

Payment for the item "BPA Safety Watcher" includes all necessary equipment, special apparel, and two-way radios.

(Use the following lead-in paragraph and subsection .98(b) when RailPros Railroad flaggers are required on UPRR railroad. Check with the State Utility and Railroad Liaison.)

Add the following subsection:

**00225.98(b)  Railroad Flagger Services** - The accepted quantities of Railroad flagger services will be paid for at the Contract unit of price, per each, for the item "Railroad Flagger Services".

Payment for the item "Railroad Flagger Services" performed beyond the quantity shown in the Contract Schedule of Items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional Work will be made according to 00195.20.

Payment for the item "Railroad Flagger Services" includes all Equipment, labor, and Incidentals necessary to complete the Work as specified.

(Use the following subsection .99 when a Pedestrian Transport Vehicle or Tow Truck is included in the Project. Do not change the alpha characters next to the pay items.)

**00225.99  Pilot Cars** - Replace this subsection with the following subsection:

**00225.99  Work Zone Vehicles**- The accepted quantities of work zone vehicles will be paid for at the Contract unit price, per unit of measurement, for the following items:

 Pay Item Unit of Measurement

 (a) Pilot Cars Hour

 (b) Pedestrian Transport Vehicle Hour

 (c) Tow Truck Hour

Payment for ***(***item (a)***)***, ***(***item (b)***), (***and***) (***item (c)***)*** performed beyond the quantity shown in the Contract Schedule of items will be made at the Contract unit price if the Engineer determines that the Contract unit price does not exceed the value of the Work as determined according to Section 00197. If the Engineer determines that the Contract unit price exceeds the value of the Work, payment for the Additional work will be made according to 00195.20.

(Use the following paragraph when pay item (a) is included in the pay item list.)

Item (a) includes fully operated pilot cars, two-way radios, the "PILOT CAR FOLLOW ME" sign, and the rotating amber light or strobe light mounted on the pilot car.

(Use the following paragraph when pay item (b) is included in the pay item list. If a bicycle rack is not needed, delete the language between the parentheses in the paragraph, below, otherwise delete the parentheses.)

Item (b) includes fully operated pedestrian transport vehicles, two-way radios, the “CONSTRUCTION VEHICLE DO NOT FOLLOW” sign, ***(***the bicycle rack,***)*** the ADA-pedestrian loading/unloading mechanism, and the rotating amber lights or strobe lights mounted on each vehicle.

(Use the following paragraph when pay item (c) is included in the pay item list.)

Item (c) includes fully operated tow truck, two-way radios, and warning lights on each vehicle.

(Use the following paragraph.)

Payment will be payment in full for all Equipment, labor, and Incidentals necessary to complete the Work as specified.

(This page is only used to provide a list of standard drawings to the specification writer for listing on the plan title sheet. Remove this page before advance and final.)

NUMBER OF TRAFFIC CONTROL PLAN SHEETS: \_\_\_\_\_

(Add or delete Standard Drawings, as applicable.)

To be accompanied by Standard Drawings:

RD410 Guardrail Parts (Thrie Beam)

RD420 Energy Absorbing Terminal

RD425 Non Energy-Absorbing Terminal 3' or 4' Flare

RD500 Precast Concrete Barrier Pin and Loop Assembly

RD510 Concrete Barrier Terminal

RD530 Guardrail Transition to Concrete Barrier

RD535 Concrete Barrier (Modified) Around Median Obstacle

RD545 Precast Tall (42") Concrete Barrier

RD560 Cast-in-Place Tall Barrier Transition to Standard Concrete Barrier

BR203 Transition Concrete Bridge Rail to Guardrail

TM204 Flag Board Mounting Details

TM211 Signing Details US & Interstate Route Shields

TM212 Signing Details Oregon Route Signs

TM570 Traffic Delineators

TM575 Traffic Delineator Installation for Freeways

TM576 Traffic Delineator Installation for Non-Freeways

TM670 Wood Post Sign Supports

TM671 3 Second Gust Wind Speed Map

TM677 Sign Mounts

TM681, TM687, TM688 Perforated Steel Square Tube (PSST)Sign Support Installation and Foundation

TM800 Tables, Abrupt Edge and PCMS Details

TM810 Temporary Pavement Markers

TM820 Temporary Barricades

TM821, TM822 Temporary Sign Supports

TM830 Temporary Concrete Barrier & Rumble Strip Details

TM831, TM832, TM833 Temporary Impact Attenuators

TM840 Closure Details

TM841 Intersection Work Zone Details

TM842 Signalized Intersection Details

TM843 Multi-Lane Signalized Intersection Details

TM844 Temporary Pedestrian Access Routing

TM850 2 Lane, 2-Way Roadways

TM851, TM852, TM853 Non-Freeway Multi-Lane Sections

TM860, TM861, TM862 Freeway Sections

TM870 Bridge Construction

TM871 Blasting Zones

TM880 Freeway or Divided Highway Speed Reduction (Paving

 Operations)