

SECTION 00253 - TEMPORARY WORK ACCESS AND CONTAINMENT

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00253 of the Standard Specifications modified as follows:

(Use the following subsection .00 to describe the required temporary work access and containment for the project. Repeat the paragraph as necessary to list all work surfaces requiring containment. Delete "(s)" or parentheses as applicable.)

00253.00 Scope - Add the following paragraph(s) to the end of this subsection:

(Insert the Structure No. in the first blank. Insert a description of the work surfaces requiring temporary work access and containment in the second blank. Insert the applicable bridge spans in the third and fourth blanks. Delete the language in purple parentheses that does not apply and delete all purple parentheses.)

On Structure No. ____, provide (temporary work access, containment, barges, heating, and ventilating) system(s) for ____ *(Insert description of work surfaces requiring work access and containment)* (on spans ____ through ____).

(Use the following subsection .01 when work platforms and containment are only allowed on a bridge during a restricted time period. Fill in the blanks with the dates that work platforms and containment are allowed on the bridge.)

00253.01 General - Add the following paragraph to the end of this subsection:

Work platforms and containment are allowed on the Bridge only between ____ and ____.

00253.03(a) Work Access Submittal - Replace the bullet that begins "Maximum wind speed ..." with the following bullet:

- Maximum wind speed where work access structure(s) may remain on the Structure

00253.03(b) Work Containment Submittal - Replace the bullet that begins "Maximum wind speed ..." with the following bullet:

- Maximum wind speed where containment wall materials may remain on the Structure.

00253.04 Design Services - Replace the paragraph that begins "If barges will be ..." with the following paragraph:

If barges are used, provide marine design services by an engineer licensed in the State of Oregon to practice in the field of Naval Architecture and Marine Engineering or other Professional Engineer licensed in the State of Oregon with relevant naval architecture experience as accepted by the Engineer.

(Use the following subsection .07 if Section 00252 is included.)

00253.07 Work Bridge Structural Design Requirements - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise specified in Section 00252, design work Bridges according to *AASHTO Guide Design Specifications for Bridge Temporary Works*. Furnish materials for temporary work Bridges meeting the requirements of the applicable Sections of Part 00500. Comply with all requirements of applicable permitting agencies according to Section 00290.

00253.08(a) Contractor-Designed - Replace the bullet that begins "Detail the anchoring system ..." with the following bullet:

- Detail the anchoring system that is used to connect the temporary platform or scaffolding to the existing Structure.

(Use the following lead in paragraph and subsection .09 when the Tier 2 inventory rating factor is less than 1.0 or significant temporary Structures will be suspended from the existing Structure.)

Add the following subsection:

00253.09 Work Platform, Scaffolding and Containment Structural Design Requirements -

Design work platforms, scaffolding, and containment Structures for dead load, live load, and wind load. Obtain basic wind speed as shown on Standard Drawing TM671 and applied in the most critical direction. For Structures with fundamental frequency less than 1 Hz, design for wind loads accounting for structural dynamic effects.

Provide designs with a factor of safety of at least six for wire ropes and connecting hardware and at least four for all other components for containment Structure and work platform components.

Verify structural adequacy of the Bridge with added loading from containment Structures and work platforms using *AASHTO Standard Specifications for Highway Bridges*, Group II, III, V, and VI load combinations.

(Use the following subsection to describe conditions that are allowable without structural analysis of the span if the work platforms and containments are placed symmetrically on the span [i.e. each end of the span is loaded equally]. This language may be repeated as necessary to address different spans of the bridge. List the span description, allowable work platform loading, allowable point loading & spacing, allowable projected area of containment(s) above and below a limiting wind speed for wind transverse to roadway, allowable projected area of

containment(s) above and below a limiting wind speed for wind parallel to Roadway, and allowable protrusion of platform(s) & containment(s) below the Structure.)

(a) Containment Structures Positioned Symmetrically on any Span - For containment structures positioned symmetrically on any span, design calculations for the bridge structural members are not required if all of the following conditions are satisfied:

- Total combined live load and dead load of all work platforms and containment Structures supported by the span, including all personnel, Equipment, Materials, and collected debris or water, does not exceed ____ pounds per square foot.
- Point loads do not exceed ____ pounds at each point and point loads are spaced at least ____ feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm, or directly to a girder, cross beam or diaphragm.

(Use the following bullet when a temporary structural system is NOT provided to fully resist transverse wind forces applied to the platform(s) & containment(s). Fill in the first blank with "a single" or a description of a specific span, depending on the need for specific loading requirements.)

- For winds transverse to Roadway, total combined projected area of containments installed on ____ span does not exceed ____ square feet if wind speeds are at or below ____ mph and does not exceed ____ square feet if wind speeds are above ____ MPH.

(Use the following bullet when a temporary structural system is NOT provided to fully resist longitudinal wind forces applied to the platform(s) & containment(s). Fill in the first blank with "a single" or a description of a specific span, depending on the need for specific loading requirements.)

- For winds parallel to Roadway, total combined projected area of containments installed on ____ span does not exceed ____ square feet if wind speeds are at or below ____ mph and does not exceed ____ square feet if wind speeds are above ____ mph.

(Use the following subsection to describe conditions that are allowable without structural analysis of the span if the work platforms and containments are placed asymmetrically on the span [i.e. each end of the span is loaded differently]. This paragraph may be repeated as necessary to address different spans of the bridge. List the span description, allowable work platform loading, allowable point loading & spacing, allowable projected area of containment(s) above and below a limiting wind speed for wind transverse to roadway, allowable projected area of containment(s) above and below a limiting wind speed for wind parallel to roadway, and allowable protrusion of platform(s) & containment(s) below the Structure. Fill in the blank with "a single" or a description of a specific span, depending on the need for specific loading requirements.)

(b) Containment Structures Positioned Asymmetrically on any Span - For containment structures positioned asymmetrically on ____ span, design calculations for the bridge structural members are not required if all of the following conditions are satisfied:

- Total combined live load and dead load of all work platforms and containment Structures supported by the span, including all personnel, Equipment, Materials, and collected debris or water, does not exceed ____ pounds per square foot.
- Point loads do not exceed ____ pounds at each point and point loads are spaced at least ____ feet in both horizontal directions. Point loads are applied to deck within one foot of a girder, cross beam, or diaphragm.

*(Use the following bullet when a temporary structural system is **NOT** provided to fully resist transverse wind forces applied to the platform(s) & containment(s). Fill in the first blank with "a single" or a description of a specific span, depending on the need for specific loading requirements.)*

- For winds transverse to Roadway, total combined projected area of containments installed on ____ span does not exceed ____ square feet if wind speeds are at or below ____ mph and does not exceed ____ square feet if wind speeds are above ____ mph.

*(Use the following bullet when a temporary structural system is **NOT** provided to fully resist longitudinal wind forces applied to the platform(s) & containment(s). Fill in the first blank with "a single" or a description of a specific span, depending on the need for specific loading requirements.)*

- For winds parallel to Roadway, total combined projected area of containments installed on ____ span does not exceed ____ square feet if wind speeds are at or below ____ mph and does not exceed ____ square feet if wind speeds are above ____ mph.

(Replace "XX.XXXXX" with the latitude and "XXX.XXXXX" with the longitude of nearest weather station, in 5 decimal place format in degrees (Example: Replace "XX.XXXXX" with "43.381159" and "XXX.XXXXX" with "124.23273").)

(c) High Wind Events - If removal of containment walls is used to comply with projected area limits at high wind speed, removal is required when actual wind speed or predicted wind speed exceeds allowable limits. 24-hour weather watch is required during non-work times. Predicted wind speeds are obtained from:

forecast.weather.gov/MapClick.php?lat=XX.XXXX&lon=-
XXX.XXXX&unit=0&lg=english&FcstType=graphical

(Select one of the options in purple parentheses, delete the option that does not apply, and delete all purple parentheses.)

Actual wind speeds are measured using (a handheld wind speed measuring instrument with certified accuracy 3% of reading)(an ODOT provided wind meter).

(Use the following subsection .40 when there is a limitation on how far the containment or work platform can extend below the Structure.)

00253.40 General - Add the following paragraph to the end of this subsection:

Containment and work platforms do not extend more than ____ feet below bottom of existing Structure.

(Use the following lead in paragraph and subsection .43 when there is a need to list the plan sheets detailing structural repairs that must be completed before platform and containment installation.)

Add the following subsection:

00253.43 Structural Repairs - Complete the structural repairs detailed on plan sheets _____ through _____ before installation of work platform or containment.

(Use the following lead in paragraph and subsection .44 when the project contains a bridge over navigable water.)

Add the following subsection:

00253.44 Marine Traffic Restrictions -

(Use the following paragraph when a bridge may NOT be closed to marine traffic. Fill in the blank with the bridge number.)

Bridge No. _____ may not be closed to marine traffic.

(Use ONE of the following options to list the dates of allowable marine traffic partial closure. Fill in the blank with the bridge number, span number, and the dates of allowable partial closure. Repeat as necessary for multiple Structures.)

[Option 1 – Time restriction only]

U.S. Coast Guard approval has been obtained for partial closure of Bridge No. _____ to marine traffic between _____ and _____.

[Option 2 – Span restriction only]

U.S. Coast Guard approval has been obtained for partial closure of span _____ of Bridge No. _____ to marine traffic.

[Option 3 – Time and span restriction]

U.S. Coast Guard approval has been obtained for partial closure of span _____ of Bridge No. _____ to marine traffic between _____ and _____.

(Use the following sentence if multiple spans can be closed but not all. Fill in the blank with number of spans.)

No more than ____ span(s) may be closed at any time.

00253.45 Navigation Lighting - Replace the paragraph that begins "Mark each work platform ..." with the following paragraph:

Mark each work platform with flashing yellow lights along the outside edge at 100-foot intervals. Mark each work platform from the outer end near the navigation channel to the first set of pilings near the bank. Provide flashing yellow lights visible to boat traffic from either side of the platform. Flashing yellow lights may be equivalent to flashing yellow lights on construction barricades.

(Use the following lead in paragraph and subsection .46 when loads can be placed on Structure(s). Include the language in purple parenthesis when 00253.09 identifies allowed loading. This is in addition to any loading for the containment Structure itself, use caution not to overload the Structure.

Coordinate with 00220.45, suggest using option 4.

Repeat as necessary for multiple Structures. Delete each bullet that does not apply to the respective Structure No. to communicate where loads are allowed/disallowed.)

Add the following subsection:

00253.46 Loads Placed on Structure Roadway, Shoulders, and Sidewalks - When a Traffic Lane, Shoulder or sidewalk is closed the following loading may be applied to the Structure(s) *(in addition to the loading identified in 00253.09)*:

When a Traffic Lane or Shoulder closures are allowed on Structure No. _____:

- Equipment, vehicles, and Materials may be placed in the closed:
 - Traffic Lane
 - Shoulder
 - Sidewalk
- Equipment, vehicles, and Materials may NOT be placed in or on:
 - Active Traffic Lane
- No more than one vehicle operating under D.O.T. overload permit will be allowed within the closed area on each span of the Structure.

The combined effect of all loads in the closed area(s) will be limited to the lesser of:

(Fill in the blank with allowable loading. Delete the bullet(s) if not required.)

- _____ pounds in any single square foot;
- _____ pounds in any 100 square feet of surface area of the Structure;

- total of _____ pounds for each span of the Structure;
- total of _____ pounds between two adjacent girders;

(Fill in the blank with allowable equivalent vehicle load such as H-20, HS-20, HS20-44, Oregon Type-3S2 etc. This bullet is required.)

- Bending moment and maximum shear produced by one lane of _____ on each span of the Structure;

00253.90 Payment - Replace the paragraph that begins "Payment will be payment ..." with the following paragraph:

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