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CITY OF BENTON CITY
SECTION 7

STANDARD SPECIFICATIONS FOR:

TRAFFIC CONTROL

7-1 TRAFFIC CONTROL

7-1.01 GENERAL

The work covered in this section shall apply to all projects which require measures to protect pedestrian, bicycle and vehicular traffic. All traffic control requirements shall be completed in conformance to sections 1-07.23 "Public Convenience and Safety" and 1-10 "Temporary Traffic Control" of the latest (English Units) edition of the SWSS, except as herein modified.

7-2 TRAFFIC CONTROL PLANS

For city-administered contracts, which do not utilize federal funding, the following revisions shall apply.

The first sentence in Section 1-10.2 (2) of the SWSS is amended to read:

The traffic control plan(s) appearing in the contract documents, or in Part VI of the MUTCD (Typical Application Diagrams), or the Benton City Standard Drawings (7-14 through 7-29), or in the State of Washington Standard Plans (Section K), show methods of handling traffic.

The following shall be added after the first paragraph in Section 1-10.2 (2) of the SWSS:

Any modifications to the approved traffic control plan(s) shall be done by the Contractor at no additional expense to the City.

Approval of the traffic control plan(s) by the Engineer is tactic and does not relieve the Contractor of their responsibilities. The Contractor shall assume all responsibility in providing a safe work zone and adequate traffic control and protection.

7-3 CONSTRUCTION SIGNS AND OTHER DEVICES

For city-administered contracts, which do not utilize federal funding, the following revisions shall apply.

The first sentence in Section 1-10.3 (3) A of the SWSS is amended to read:

All signs and other traffic control devices required by the approved traffic control plan(s) as well as other appropriate signs and traffic control devices prescribed by the Engineer shall be furnished by the Contractor, unless otherwise provided for in the contract documents or special provisions.

7-4 LANE RESTRICTIONS AND CLOSURES

City designated arterial, secondary arterial and collector streets shall have one (1) through lane of traffic maintained in each direction at all times, except upon written approval of the Engineer. In those cases, one lane of traffic with Flaggers may be provided. Arrowboard(s) shall be used where traffic is diverted across the centerline on arterials, secondary arterials or major collector streets, unless otherwise approved by the Engineer. Local streets shall maintain traffic in at least one direction at all times, except with written approval of the Engineer. Traffic control for a lane closure on arterial and minor arterial streets shall not be in effect between the hours of 6:30 a.m. to 8:30 a.m. and 3:30 p.m. to 6:00 p.m., unless prior approval is obtained from the Engineer.

Any lane restrictions shall be held to a minimum time and length needed for each operation. If the Engineer determines that the lane restrictions are causing congestion, the Contractor will be required to open all lanes to traffic until the congestion is eliminated. All lane closures and lane restrictions will be subject to prior approval by the Engineer.

Street or lane closures on streets serving primarily commercial areas shall not be permitted from the fourth Thursday in November to the first week in January, unless prior written approval is obtained from the Engineer.

7-5 NO PASSING ZONES

For city-administered contracts, which do not utilize federal funding, the following revisions shall apply.

The third through ninth sentences in the first paragraph of Section 1.10.3 (4) "No Passing Zones" of the SWSS are modified as follows:

"The number of necessary signs will be as shown in the approved traffic control plan(s) or as specified by the Engineer. The Contractor shall provide, install and maintain the necessary signs until the no passing zones are reestablished by striping or as otherwise determined by the Engineer".

7-6 REMOVAL OF EXISTING TRAFFIC CONTROL SIGNS

Where construction requires the removal of existing City-owned signs, or where the signs are in such close proximity to the construction that they are susceptible to damage, the contractor shall remove the existing signs in conformance with the requirements of section 1-35 and 2-25 of these standards:

7-7 CONTRACTOR'S EMERGENCY TELEPHONE NUMBERS

The Contractor shall provide the Engineer with names and telephone numbers of the Traffic Control Manager (TCM) and Traffic Control Supervisor (TCS) who are responsible for and have authority to correct, erect, and maintain traffic control devices within the project limits during working and non-working hours (refer to sections 1-10.2 (1), 1-10.2 (1) A and 1-10.2 (1) B of the SWSS).

7-8 TEMPORARY VEHICULAR LANE STRIPING

On new road construction, overlay projects, or work which involves the patching or paved surfaces in which vehicular lane striping is covered, eradicated, destroyed, or otherwise rendered ineffective, the Contractor shall install, maintain, and remove temporary centerline and lane striping as directed by the Engineer. All costs for temporary vehicular lane striping as described herein, shall be considered as incidental to the lump sum traffic control bid item.

7-9 TRAFFIC CONTROL

7-9.01 TRAFFIC CONTROL LABOR

Traffic control labor shall be provided per the provisions of SWSS Section 1-10.3(1) as herein supplemented for contracts, which do not utilize federal funding. When the bid proposal includes an item for "Flaggers and Spotters" the work covered by this item shall be limited to flagging labor and the traffic control labor required for setting, moving, maintaining, positioning, and removing the temporary traffic control signs and devices required for the days detours, or lane closures and flagged construction operations, provided that the installed, relocated, or new locations are in accordance with the contract plans, approved traffic control plans, or the orders of the Engineer.

On street reconstruction projects and other long term site specific projects, where long term detours and traffic control is initially set up for the project phase and then left in place for longer than one day, the labor, equipment and materials as required to supply, set up, install, maintain and remove the project long term signing and detours, shall be included in the lump sum bid item for Project Temporary Traffic Control.

All maintenance of signs and detours during non-working hours shall be included in the lump sum bid item for Project Temporary Traffic Control, regardless of whether the bid proposal contains a bid item for traffic control labor, or not.

7-9.02 MEASUREMENT AND PAYMENT FOR TRAFFIC CONTROL

Section 1-10.4 of the SWSS is amended to incorporate the following revisions:

Traffic Control

The unit contract price for "Project Temporary Traffic Control," per lump sum shall be full compensation for all labor, equipment and materials as required to remove existing signs and posts in the work area and deliver to the city yard, as required by City Standard 1-35 and 2-25 and to supply, install, maintain and remove all traffic signs, posts, barricades, channelization devices, flashers, arrow and/or message boards, detours, no passing zones, temporary striping, traffic control plan(s), other traffic control devices, r TCS labor (unless provided for otherwise in the bid proposal), or equipment, materials, maintenance of signs and detours, and all other incidentals and miscellaneous work required to provide traffic control as specified herein or as directed by the Engineer, except, when a separate bid item is provided in the bid proposal for "Flaggers and Spotters", or "Traffic Control Supervisor".

When a separate bid item is not provided in the bid proposal for "Flaggers and Spotters" per hour, then all cost for traffic control labor, flagging labor, materials and supplies specified and as required to maintain safe traffic conditions, protect the work area and new pavement surfaces, shall be included in the lump sum bid item for "Project Temporary Traffic Control."

When the bid proposal contains an item for "Flaggers and Spotters" per hour, the Contractor will be reimbursed for hours of traffic control labor, including flagging labor and temporary traffic control maintenance as above described in the amount per hour provided in the bid proposal. Measurement and payment will only be made for the "Flaggers and Spotters", per hour, to set up and remove traffic signing and cones for the days operation and for time flagging at the flagging station. A separate measurement and payment will not be made for time required to set up and remove any long term or phased project signing and traffic devices and the required labor for such work, when the traffic control will remain in place longer than one day, shall be included in the lump sum bid item for "Project Temporary Traffic Control".

Prior to beginning construction, the Contractor shall declare whether his crew will work an 8-hour day, 40-hour week, or a 10-hour day, 40-hour week. Traffic control labor overtime will be paid per employee, when payrolls are submitted showing that overtime was required and paid. If an employee is moved from another project and will then qualify for overtime, prior approval of the engineer for the use of the "overtime" employee will be required. Overtime will be paid at 1.5 hours per hour worked.

Unless a separate bid item is provided in the bid proposal, all work described under this section, performed by a TCM or TCS , will not be paid as "Labor for Flagging" and all costs for labor, equipment and materials for the TCM or TCS, shall be included in the lump sum bid for "Project Temporary Traffic Control" or included in other bid items as applicable.

The quantity, and/or hourly rate, when stated in the proposal, is the City's estimate, without knowledge of the Contractor's specific method of operation or costs. When a unit bid amount is included in the bid proposal, the Contractor shall make an estimate of actual costs, including designated wage rates, work procedures, etc. and include all costs in excess of the per hour unit cost included in the bid proposal, in the traffic control lump sum bid item.

Time cards for the traffic control labor as required to complete the previously described work shall be signed by the Contractor and Engineer's representative no later than the following work day. If the Contractor fails to present the time cards to the Engineer as specified, no work will be acknowledged and no payment will be made for the previous days traffic control labor.

7-10 PERMANENT SIGNING

7-10.01 GENERAL

When provided for in the contract, the contractor shall provide city standard signs, posts, brackets and miscellaneous construction as required to provide the designated street direction and safety signing, complete and installed. Signs, posts, brackets and mounting shall be as required by City Standard Drawings Section 7 and the construction plans, bid proposal and City Traffic Engineer.

Removal of existing signs shall be completed by the contractor, per the provisions of Section 1-35 and 2-25 of these standard specifications.

7-10.02 MEASUREMENT AND PAYMENT

The unit contract price per each, for each type and size of sign, as provided for in the bid proposal, shall be full compensation for all labor, equipment and materials as required to provide and install the sign at the designated location, complete with brackets and mounting hardware.

The unit contract price per each for "Sign Post" shall be full compensation for all labor, equipment and materials as required to provide and install a sign post at designated locations, in conformance with the requirements of City Standard Drawing 7-1.

7-10.03 INSPECTION AND TAG

All signs will be inspected by the City of Benton City prior to installation on any project; including but not limited to, subdivisions, commercial, residential or city contracts. The contractor will deliver the signs to the City Street Department at which time the City will have 5 business days to inspect, tag and approve the signs.

Approved signs will be tagged with a City of Benton City barcode, having a unique identifying number for that sign. Once signs are inspected, the contractor will be notified to pick up the signs and either make the necessary corrections or proceed with installation according to the project and City of Benton City standards. Signs without a City of Benton City barcode are not approved for installation.

7-10.04 MANUFACTURERS' IDENTIFICATION AND DATE

All signs shall be labeled with the manufacturers' name and date of manufacture on the back. Hand written labels are not permitted, street name signs or other double sided signs are exempt. However, a detailed list of all exempted street name or double sided signs shall be provided to the City on manufacturers' letterhead with the date of manufacture.

7-11 PAVEMENT MARKINGS

7-11.01 GENERAL

Except as herein modified, the work under this section shall apply to all projects that require channelization and other pavement markings for pedestrian, bicycle and vehicular traffic.

All pavement marking work shall be in conformance with Section 8-09 "Raised Pavement Markers", Section 8-22 "Pavement Marking" and Section 8-23 "Temporary Pavement Markings" of the Washington State Department of Transportation's (WSDOT) 2004 Standard Specifications for Road, Bridge, and Municipal Construction (SWSS) and as currently amended, the WSDOT Standard Plans, the contract documents, Special Provisions and this section.

7.11.02 PAVEMENT MARKINGS AND MARKER REMOVAL

Traffic pavement markings and raised pavement markers shall be removed to the fullest extent possible from the pavement by any method that does not materially damage the surface or texture of the pavement or surfacing. Accumulations of sand or other material which might interfere with drainage or might constitute a hazard to traffic will not be permitted. Sand or other material deposited on the pavement as a result of removing pavement markings or raised pavement markers shall be removed as the work progresses to avoid hazardous conditions.

The Contractor shall remove pavement markings and raised pavement markers where shown or indicated on the plans, or where designated by the Engineer. The pavement markings shall be obliterated until blemishes caused by pavement marking removal conform to the coloration of the adjacent pavement. If, in the opinion of the Engineer, the pavement is materially damaged by pavement marking removal, such damage shall be repaired by the Contractor at the Contractor's sole expense and to the satisfaction of the Engineer.

Traffic Control

Raised pavement markers shall be removed flush with the pavement surface. No portions of the raised pavement markers are to remain. Epoxy build-up, if existing, shall be removed by grinding, brush hammering or other methods as approved by the Engineer. Damage caused to the pavement due to Contractor's removal operation shall be repaired by the Contractor, at the Contractor's sole expense and to the satisfaction of the Engineer. All removed raised pavement markers and other debris resulting from the removal operations shall become the property of the Contractor and shall be properly disposed of outside the project limits.

Pavement markings, as shown on the Plans or as directed by the Engineer, shall be properly removed before any change is made in the traffic pattern, and before installing permanent new pavement markings or raised pavement markers or temporary pavement markings. Removal of pavement markings and raised pavement markers on any working day shall be limited to that area which is to be remarked for traffic control, either permanent or temporary, that same working day, unless otherwise directed by the Engineer. The Contractor shall remove temporary pavement markings upon installation of the permanent pavement markings.

When refreshing existing plastic markings, the marking must be heated slightly and the top scraped lightly with a flathead shovel before installing new marking.

The Contractor shall submit, to the Engineer for approval, the proposed methods of removal. Removal of stripes, pavement markings and raised pavement markers shall not begin until the Contractor has received written approval from the Engineer.

Payment. Payment for "Pavement Marking and/or Raised Pavement Marker Removal" shall be at the Lump Sum price shown in the Bid Proposal. Such payment shall be considered full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to remove pavement markings, temporary pavement markings, and raised pavement markers, in accordance with the plans, Standard Specifications, SWSS, and the Special Provisions. If a separate pay item is not provided in the Bid Proposal, payment for all work herein specified shall be incidental to the lump sum bid item for "Project Temporary Traffic Control".

7-11.03 PLASTIC PAVEMENT MARKINGS

This work shall consist of applying plastic pavement markings at locations and in accordance with the details shown on the plans or designated by the Engineer, and as specified in the Standard Specifications, SWSS, and the Special Provisions. Plastic markings must be thermoplastic -, or plastic tape, unless otherwise specified on the plans, in the bid schedule, in the Special Provisions or in this section. The method(s) chosen must be consistent throughout the project.

Longitudinal traffic stripes including: center lines, lane line, edge lines, gore stripes, two-way left-turn lanes, no-passing lines, lane drops, etc., shall be 3-M Stamark High Performance Pavement Series 380 (white) and 381 (yellow) tape.

Plastic tape shall be installed by an inlaid method as specified by the manufacturer for all new or newly overlaid asphalt pavement surfaces. Failure to properly inlay the tape shall result in a thirty percent (30%) reduction in the contract amount due to the Contractor for this item(s). Tape used in inlaid method shall have a minimum thickness of 0.060 inch (1.52 mm), without adhesive.

Traffic stripes on existing surfaces (those not newly surfaced) shall be either thermoplastic (extruded, sprayed, or preformed), unless otherwise indicated in the plans or approved by the Traffic Engineer in writing. Thermoplastic (spray or extruded) shall be applied at a minimum thickness of 120 mil (0.120-inch).

The Contractor shall apply glass beads to the surface of the pavement markings (unless they are integral as in preformed) immediately after thermoplastic material is applied to the pavement surface and while the thermoplastic material is still molten so that the beads will be held by and

embedded in the surface material. The beads shall be applied at a uniform rate of not less than eight (8) pounds per 100 square feet of markings and striping.

The glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of AASHTO Designation: M247 (Type I).

When plastic tape is approved by the Traffic Engineer for use on existing surfaces, a primer, of the type recommended by the manufacturer of the plastic tape material, shall be applied immediately in advance of, but not concurrent with, the application of plastic tape. The primer shall be applied at the application rate recommended by the manufacturer and shall not be thinned.

Traffic symbols or legends, and transverse traffic stripes (arrows, letter legends, symbols, numbers, crosswalks, stop bars, yield lines, - and railroad crossings) shall be preformed thermoplastic only (extruded or sprayed thermoplastic, epoxy material, and tape is not permitted). Thickness for these markings shall be 0.125 inch and installed in accordance with the manufacturers specifications. All pavement arrows shall be the elongated arrows per WSDOT Standard Plan M-24.40-00.

Existing surfacing which is to receive the plastic marking material shall be mechanically wire brushed to remove all dirt and contaminants, unless otherwise recommended by the pavement marking material manufacturer.

Thermoplastic material for pavement markings shall be applied in accordance with the manufacturers specifications. Thermoplastic material for pavement markings shall be applied in a single uniform layer with no seams. The pavement surface to which the thermoplastic material is applied shall be completely coated by the material and the voids of the pavement surface shall be filled.

The pavement marking material used on the project shall be guaranteed to retain an average one-hundred (100) millicandellas per lux per square meter, two (2) years after installation of the markings or will be replaced at no cost to the City.

Section 8-22.1 "Crosswalk Stripe" of the SWSS is amended to read:

A SOLID WHITE line, 24 inches wide, 6 feet long, installed parallel to a series of other crosswalk stripes so as to form a ladder type crosswalk. The crosswalk will normally be 6 feet wide, unless otherwise shown on the plans or in the contract.

Section 8-22.3(1) of the SWSS is amended to read:

The Contractor will provide necessary control points to assist in preliminary spotting of the lines before marking begins. All work necessary to establish satisfactory alignment for stripes and all layout work required for pavement markings shall be performed by the Contractor with any device or method that does not damage the pavement nor conflict with other traffic control devices. The Contractor is responsible for the completeness and accuracy of all layout, alignment and spotting. Approval by the Traffic Engineer of the layout is required before permanent striping or marking begins.

Section 8-22.3(2) of the SWSS is supplemented with the following:

The liquid plastic material shall be applied in accordance with the manufacturer's recommendations and shall be installed by a manufacturer certified installer. Pavement surfaces shall be clean, dry and free from contaminants such as curing agents, surface oils or existing road marking materials prior to application of the pavement marking material. Installation on coal tar based asphalt is not allowed. The surface temperature shall be between 0° C and 40° C (32° F and 105° F).

Coverage per gallon of material (plus or minus 5%) for various mileage's are as follows:

MILS	SQ. FT.	4" EDGE LINE (FT.)
120	13	40

Drop on beads are not included in this measurement

Section 8-22.4, "Measurement" of the SWSS is amended to read:

Pavement traffic stripes (all centerline stripe types, all no-passing stripes, lane lines, edge lines, bike lane lines, drop lane lines, gore lines, stop bars, crosswalk lines, dotted extension stripes, barrier stripes, etc.) shall be measured in actual linear feet of material used per the specified width, complete-in-place.

Pavement marking legends and symbols (single and combination arrows, whole word legends, RR crossing markings, bike symbols, etc.) shall be measured by the unit, complete-in-place.

Section 8-22.5, "Payment" of the SWSS is amended to read:

The contract prices paid per completed linear foot for plastic pavement marking stripes of the widths designated in the Bid Proposal and for each type of plastic legend and symbol specified in the Bid Proposal, shall be considered full compensation for furnishing all labor, materials, tools, equipment, guarantees, and incidentals necessary for performing all work involved in applying plastic pavement markings, including layout work, and all miscellaneous work as required to provided the specified plastic pavement marking, complete in place, as shown in the Plans, SWSS, Standard Specifications, as specified in the Special Provisions, and as directed by the Engineer. If a separate pay item is not provided in the Bid Proposal, payment for all work herein specified shall be incidental to the lump sum bid item for "Project Temporary Traffic Control".

7-11.04 PAINT PAVEMENT MARKINGS

This work shall consist of applying painted markings (stripes, legends and symbols) at locations and in accordance with the details shown on the Plans or designated by the Engineer, and as specified in the Standard Specifications, SWSS, and the Special Provisions.

Section 8-22.1 "Crosswalk Stripe" of the SWSS is amended to read:

A SOLID WHITE line, 24 inches wide, 6 feet long, installed parallel to a series of other crosswalk stripes so as to form a ladder type crosswalk. The crosswalk will normally be 6 feet wide, unless otherwise shown on the plans or in the contract.

Section 8-22.3(1) of the SWSS is amended to read:

The Contractor will provide necessary control points to assist in preliminary spotting of the lines before marking begins. All work necessary to establish satisfactory alignment for stripes and all layout work required for pavement markings shall be performed by the Contractor with any device or method that does not damage the pavement nor conflict with other traffic control devices. The Contractor is responsible for the completeness and accuracy of all layout, alignment and spotting. Approval of the layout by the Traffic Engineer is required before permanent striping or marking begins.

Section 8-22.4, "Measurement" of the SWSS is amended to read:

The contract prices paid per linear foot for paint pavement marking stripes of the widths designated in the Bid Schedule and for each type of paint legend and symbol specified in the Bid Schedule, shall be considered full compensation for furnishing all labor, materials, tools, equipment, guarantees, and incidentals necessary for performing all work involved in applying painted pavement markings, including layout work, and all miscellaneous work as required to provided the specified paint pavement marking, complete in place, as shown in the Plans, SWSS, Standard Specifications, as specified in the Special Provisions, and as directed by the Engineer. If a separate pay item is not provided in the bid proposal, payment

for all work herein specified shall be incidental to the lump sum bid item for "Project Temporary Traffic Control".

7-11.05 PAVEMENT MARKING - MATERIALS

All pavement marking materials must have been tested and prequalified for meeting the requirements noted in Section 8-22, 8-23 and 9-21 of the SWSS and be listed on the current WSDOT QPL to include:

Paint Pavement Marking - Sprayed Applications (Longitudinal Applications)

Plastic Pavement Marking - Extruded Applications (Longitudinal Applications) 120 mil (0.120 inch)

Plastic Pavement Marking - Extruded Applications (Transverse Applications) 125 mil

Plastic Pavement Marking - Sprayed Applications (Existing pavement only)

All materials shall be applied with profiles at 20 inches centers. Base line thickness shall be 120 mils min. Profiles shall be within a tolerance of 50 mils. Profile width shall be a minimum of 80% of the line width. Profile longitudinal length shall be a minimum of 1.5 inches. All thicknesses are measured from the pavement surface.

Plastic Pavement Marking - Preformed Tapes (Longitudinal Applications)

Preformed tapes are not allowed on bituminous surface treatment (BST) pavement.

Plastic Pavement Marking - Preformed (Transverse Applications)

Temporary Pavement Marking - Removable Preformed Tapes

Temporary Pavement Marking - Non-Removable Preformed Tapes

Temporary Raised Pavement Markers Type 2 (Long Term)

Temporary pavement markers for long term (6 months or less). Raised pavement markers approved for permanent installations can also be used.

Temporary Raised Pavement Markers Type 2 (Short Term)

Temporary pavement markers for short term (14 days or less). Raised pavement markers approved for permanent and long term installations can also be used.

Temporary Raised Pavement Markers Type 2 (Short Term-Seal Coat)

Temporary pavement markers for short term (14 days or less) at seal coat locations.