



Paul R. LePage
GOVERNOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

David Bernhardt
COMMISSIONER

March 4, 2015
Subject: Wearing Surface
Replacements
State WIN: 022199.00
Location: **Fairfield**
Amendment No. 1

Dear Sir/Ms:

Make the following change to the Bid Documents:

REMOVE pages 36 and 37, "SPECIAL PROVISION, SECTION 202, REMOVING STRUCTURES AND OBSTUCTIONS" dated 01/26/2015 and **REPLACE** with the attached revised "SPECIAL PROVISION, SECTION 202, REMOVING STRUCTURES AND OBSTUCTIONS", 2 pages, dated 01/20/2016.

INSERT attached "SPECIAL PROVISION, SECTION 652, MAINTENANCE OF TRAFFIC", 4 pages, after page 41.

Consider this change and information prior to submitting your bid on **March 23, 2016**

Sincerely,

George M. A. Macdougall P.E.
Contracts & Specifications Engineer



PRINTED ON RECYCLED PAPER

SPECIAL PROVISIONS
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Removing Pavement Surface)

The November 2014 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade by the use of an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a grade wire, or from the existing pavement surface using a 30 foot minimum contact ski (floating beam), or 24 foot non-contact grade control beam.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the planing or grinding machine. Any structures or obstructions left within the travel lane or shoulders shall have tapers installed according to Standard Detail 202(01). The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 1/2 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross-slope that exceed 3/8 inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On highways or expressways with directional traffic, the Contractor will be required to remove the pavement surface on the adjacent sections of travel lane and designated portions of adjacent shoulder before the end of the following calendar day unless the centerline edge is tapered to a 12:1. Failure to remove the centerline vertical edge by milling, using the approved taper, or matching the adjacent course the following day will constitute a traffic control violation unless an excusable delay is granted by the Department. The Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

On roadways with two-way traffic, the Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

During any period that a centerline vertical or tapered edge exists, the Contractor will be responsible for installing additional warning signage that clearly defines the centerline vertical or tapered edge and elevation differential hazard, as well as additional centerline delineation such as double RPM application, or temporary painted line. The Traffic Control Plan shall include the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of the effected roadway section. All additional signing, labor, traffic control devices, or incidentals will not be paid for directly, but will be considered incidental to the appropriate 652 bid items.

When pavement milling operations leave a 2 inch or less exposed vertical face at the edge of the traveled way, RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when pavement milling operations leave an exposed vertical face at the edge of travelway.

When pavement milling operations on directional or bi-directional traffic roadways leave an exposed vertical face greater than 2 inches at the edge of the traveled way the edge shall be either;

1. Be tapered to a zero edge by means of milling a 12:1 transition from the edge of traveled way onto the shoulder before opening the lane to traffic. Tapers shall be removed to form a vertical edge prior to the placement of the new pavement course. No additional payment will be made for tapers, or taper removal.
2. Have an additional 2 feet of pavement shall be removed from the shoulder to eliminate the vertical edge at the edge of travelway before opening the lane to traffic. Payment will be made under the pavement removal item.
3. A pavement layer will be placed to reduce the vertical edge to 2 inch or less before opening the lane to traffic.

As a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. When pavement milling is extended into the shoulder (including milled tapers), appropriate channelization devices shall be placed 2 feet outside the edge of the vertical face at intervals not exceeding 600 feet, and RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when any pavement milling operations leaves an exposed uneven pavement surface.

Any areas of concern, such as de-lamination or pot-holing shall be identified on a continuous basis as milling progresses. Proper corrective action will be determined by the Resident and paid for under the appropriate contract items, and if required, completed prior to opening lane to traffic. Any issues that arise **up to** 7 calendar days after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations. Issues that arise after 7 calendar days will be the responsibility of the Contractor unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches Approach signing shall include the following signs as a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

- Road work Next x Miles
- Road work 500 Feet
- End Road Work

Work Area At each work site, signs and channelizing devices shall be used as directed by the Resident. Signs include:

- Road Work xxxx ¹
- One Lane Road Ahead
- Flagger Sign

Other typical signs include:

- Be Prepared to Stop
- Low Shoulder
- Bump
- Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract Requirements. Other sign legends may be required.

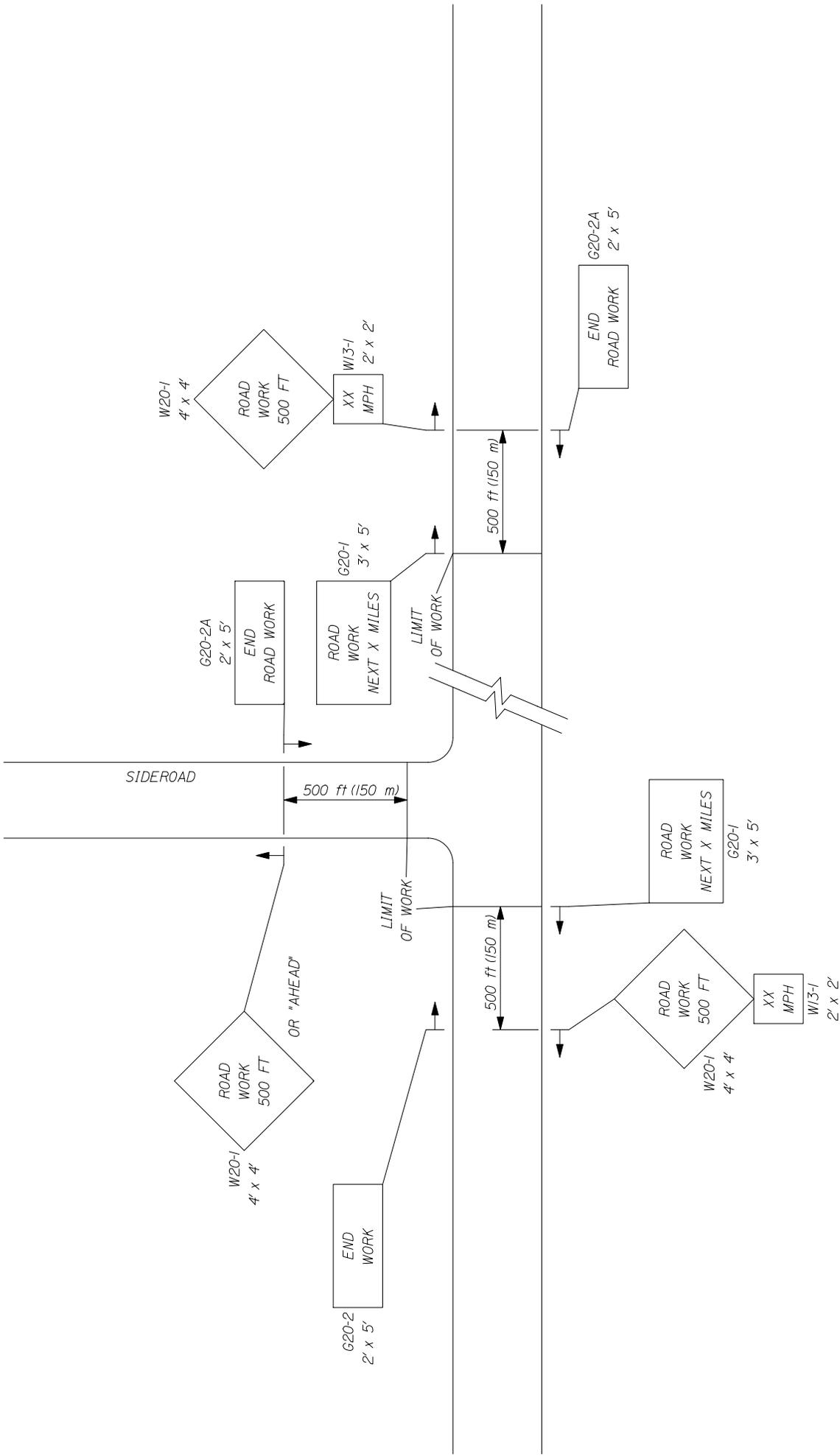
The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 800 m [2,500 ft] at each work area. To encourage quality paving in warm-weather conditions, the length can be extended to 4,000 ft depending on the traffic impacts. Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1.6 km [1 mile] of two way operation.

Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings.

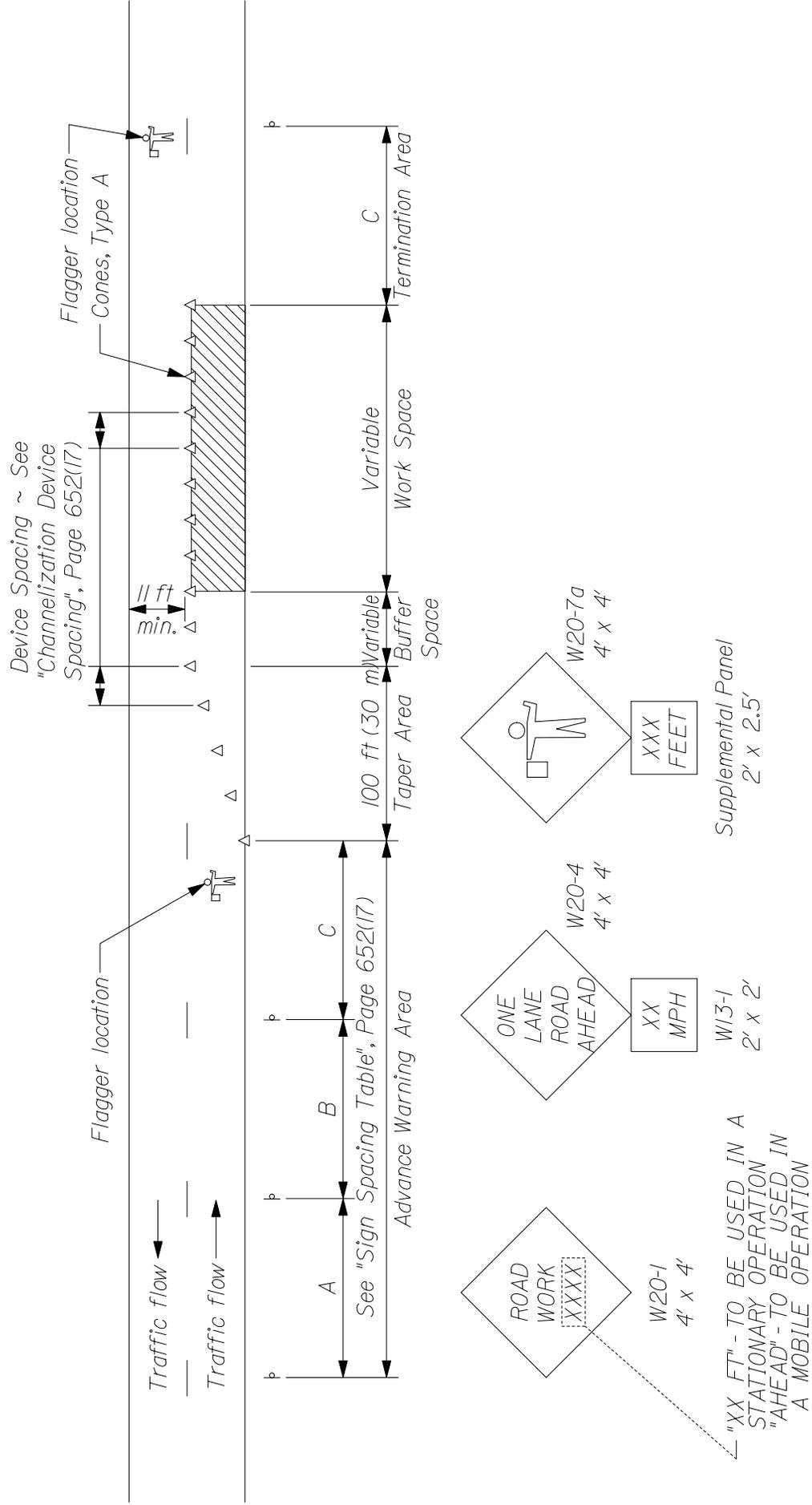
Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

¹ "Road Work Ahead" to be used in mobile operations and "Road Work xx ft" to be used in stationary operations as directed by the Resident.

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-- PROJECT APPROACH SIGNING --
TWO WAY TRAFFIC



TYPICAL APPLICATION: TWO - WAY, TWO LANE ROADWAY, CLOSING ONE LANE USING FLAGGERS

* Formulas for L are as follows:

For speed limits of 40 mph (60 km/h) or less:

$$L = \frac{WS^2}{60} \quad (L = \frac{WS^2}{155})$$

For speed limits of 45 mph (70 km/h) or greater:

$$L = WS \quad (L = \frac{WS}{1.6})$$

* Formulas for L are as follows:

A minimum of 5 channelization devices shall be used in the taper.

TYPE OF TAPER	TAPER LENGTH (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	100 ft (30 m) maximum
Downstream Taper	100 ft (30 m) per lane

CHANNELIZATION DEVICE SPACING

The spacing of channelization devices shall not exceed a distance equal to 1.0 times the speed limit in mph when used for taper channelization, and a distance in feet of 2.0 times the speed limit in mph when used for tangent channelization.

GENERAL NOTES;

1. Final placement of signs and devices may be changed to fit field conditions as approved by the Resident.

Road Type	Distance Between Signs**		
	A	B	C
Urban 30 mph (50 km/h) or less	100 (30)	100 (30)	100 (30)
Urban 35 mph (55 km/h) and greater	350 (100)	350 (100)	350 (100)
Rural	500 (150)	500 (150)	500 (150)
Expressway / Urban Parkway	2,640 (800)	1,500 (450)	1000 (300)

**Distances are shown in feet (meters).

SUGGESTED BUFFER ZONE LENGTHS

Speed (mph)	Length (feet)	Speed (mph)	Length (feet)
20	115	40	325
25	155	45	360
30	200	50	425
35	250	55	495