



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

Janet T. Mills
GOVERNOR

Bruce A. Van Note
COMMISSIONER

April 12, 2024
Subject: Pavement Rehabilitation, Pavement
Milling, Hot Mix Asphalt Overlay
State WIN: 027022.00
Location: **Brunswick & Freeport
Amendment No. 3**

Dear Sir/Ms.:

Make the following changes to the Bid Documents:

In the Bid Book:

On page 14, "NOTICE TO CONTRACTORS", CHANGE the bid opening date in the first paragraph which reads "April 17, 2024" per Amendment No. 2 to now read "**April 24, 2024**". Make this change in pen and ink.

Remove page seventy four titled SPECIAL PROVISION SECTION 107 PROSECUTION AND PROGRESS (Contract Time – Working Days) dated February 29, 2024 and **Replace** with the attached SPECIAL PROVISION SECTION 107 PROSECUTION AND PROGRESS (Contract Time – Working Days) dated April 12, 2024

Insert SPECIAL PROVISION SECTION 652 Maintenance of Traffic Smart Work Zone System Automated end of queue warning system dated January 12

The following questions have been received:

Question: What is the minimum lane width required during a two lane traffic shift?

Response: The Department requires two 11' lanes minimum.

Question: Will the rumble strips be reinstalled at the end of the contract? How will this be paid?

Response: No, they will be installed with a separate contract at a later date.

Question: Will the HMA Shim course be placed prior to the grid/fabric composite pavement interlayer?

Response: Yes, the intent of the shim is to provide a even course to apply the grid fabric to.

Question: With alternative routes around the project would the department consider allowing the contractor to restrict traffic to one lane to allow the contractor the additional width in the work area to accelerate completion of the contract?

Response: Unfortunately, no.

Question: The Thrie Beam Guardrail Item 606.64 is not an item that is stocked in the qty required for the contract at most suppliers. It is typically only produced a couple times a year depending on availability of material and supply needs. If the first rolling is missed for the season and the rail is not available it could effect the completion of the contract. How would a delay like this be handled?

Response: If the new Thri Bean can not be installed prior to the barrier being removed, the old guardrail will have to be installed. If this is the case, this work will be considered incidental to the Contract.

Question: What is the maximum dropoff allowed off edge of pavement during non-work hours?

Response: The Department will not allow more than a 2” drop off during non-work hours.

Question: If guardrail is in place, old or new, to keep traffic from entering the other bound, is the contractor allowed to work in a barreled lane closure while maintaining two lanes of traffic with a double lane shift?

Response: If the Contractor wants to work during daytime hours, work must be behind the barrier. If the Contractor wants to use barrels and a lane shift that would have to be at night.

Question: Is the contractor allowed to work day and night shift in the same 24 hour period?

Response: Yes

Question: Would the department push the bid opening an additional week to allow the contractor to further evaluation of the contract once Amendments are posted?

Response: Yes, the new bid opening date as part of this amendment is April 24, 2024.

Question:

Amendment #2 page 22 of 22 item d calls for a "Smart Work Zone System" item 652.441. Is there a specification for this system?

Response: Special Provisions are attached as part of this amendment.

Question: Amendment 2 section 107 3.c (page 21 of 22) states "Construction vehicles are prohibited from merging with mainline traffic between 7am to 9am and between 3pm and 6pm unless approved in writing by the Department". Would the Department consider changing this to "Construction vehicles are prohibited from merging with southbound mainline traffic between 7am to 9am and northbound mainline traffic between 3pm and 6pm unless approved in writing by the Department".

Response: The Department feels both SB and NB directions should have the same time limitations as indicated in the 107.3.

Consider these changes and information prior to submitting your bid on **April 24, 2024**.

Sincerely,

Kevin Hanlon for

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

Brunswick-Freeport
27022.00
Interstate 295 Southbound
Interstate 295 Northbound
February 29, 2024
Revised April 12, 2024

SPECIAL PROVISION
SECTION 107
PROSECUTION AND PROGRESS
(Contract Time – Working Days)

This Contract shall be completed within **(135)** working days. The Contractor may begin work anytime in accordance with Standard Specification 104.4.2 and upon approval of all required submittals. Time charge will commence on the start date or no later than **June 3, 2024**, whichever occurs first.

At least 21 calendar days prior to the desired Begin Construction Date **and no later than May 20, 2024**, the Contractor shall submit an **electronic copy of their signed request to begin work and the Begin Construction Date**. This signed request shall be sent read receipt through **email** with their **Schedule of Work**, in accordance with Standard Specification 107.4.2, to Shawn.Smith@Maine.gov, Scott.Bickford@Maine.gov. The Contractor shall notify all utility contacts listed in the 104 Special Provision and provide the utility contacts the submitted schedule of work within 2 calendar days of the schedule of work submittal. **A penalty in the amount of \$500/day will be assessed for each calendar day or partial calendar day beyond June 15th that the schedule of work is not received.** Upon receipt of the schedule of work, a pre-construction meeting will be scheduled.

The Contractor may request to adjust the submitted schedule of work and Begin Construction Date once after the initial submittal. The Department will allow adjustments in the Begin Construction Date of up to seven calendar days if the request is made at least 21 calendar days prior to the updated Begin Construction Date. This signed request shall be sent read receipt through **email** with their **Schedule of Work**, in accordance with Standard Specification 107.4.2, to Shawn.Smith@Maine.gov and Scott.Bickford@Maine.gov. The Contractor shall notify all utility contacts listed in the 104 Special Provision and provide the utility contacts the updated schedule of work within 2 calendar days of the request to adjust the Begin Construction Date.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
Smart Work Zone System
Automated end of queue warning system

652.1 Description This work shall consist of furnishing, installing, operating, servicing, maintaining, relocating, and removing an automated end of queue warning system, known as a Smart Work Zone System (SWZS). This work will be in place for duration of the Project.

SWZ systems will be classified in two distinct uses:

Type 1 will be a temporary automated end of queue warning system used when the expected traffic queue length is 3 miles or less.

Type 2 will be a temporary automated end of queue warning system used when the expected traffic queue length is 7 miles or less.

652.1.1 Smart Work Zone Submittals

The Contractor shall submit to the Resident for approval which shall detail the SWZS system, including the following information:

The Contractor shall identify the supplier of the SWZS, which has successfully completed at least five (5) smart work zone projects similar in concept and scope to the proposed system in the past five (5) years.

The proposed supplier shall also provide the credentials of a qualified technician who shall install, operate and train Contractor's personal on the use of the system.

The Contractor shall include names, addresses, and telephone numbers of the similar project's owner's representatives for verification.

The submittal for the SWZS shall be submitted in accordance with 105.7.2 of the latest versions of the Standard Specifications.

The Contractor's Traffic Control Plan shall discuss intended use and project specific applications and reference the SWZS submittals.

Once the SWZS have been reviewed and accepted, the Contractor shall submit brochures and cut sheets on all units of the SWZS, with details of how and which communications systems shall be used, and all technical specifications. The Contractor shall also include the submittal the actual SWZS device, operation, maintenance, monitoring and including a SWZS layout map for each work zone. The Contractor and shall update the Traffic Control Plan as needed.

At the completion of the project, the Contractor will attend a post construction debriefing to discuss positive and negative aspects of the system and potential ways to improve its operational effectiveness and project applicability.

652.2 Smart Work Zone Equipment

Type 1 SWZS shall consist of a controller, a minimum 4 traffic sensors and a minimum of 1 PCMS.

Type 2 SWZS shall consist of a controller, a minimum 8 traffic sensors and a minimum of 2 PCMS.

Type 1 and Type 2 SWZS shall include a complete communication system, hardware, software, and support necessary to make a complete and operating system that provides advance traffic information to motorists when there is a slowing of traffic due to congestion resulting from lane reductions or other conditions. The condition-responsive notification to the motorist occurs with the use of PCMS activated through real-time traffic data collected by portable traffic sensors downstream of the PCMS location.

The system shall be capable of storing ad-hoc messages created by the System Coordinator and logging this action when overriding any default or automatic advisory message. The SWZS communication system shall incorporate an error detection/correction mechanism to ensure the integrity of all traffic conditions data and motorist information messages. Any required configuration of the SWZS communication system shall be performed automatically during system initialization.

System operator local control functions and remote management operations shall be password protected. The SWZS shall be capable of acquiring traffic information and selecting messages automatically without operator intervention after system initialization. The lag time between changes in threshold ranges and the posting of the appropriate PCMS messages shall be no greater than 15 seconds. The system operation and accuracy shall not be appreciably degraded by inclement weather or degraded visibility conditions including precipitation, fog, darkness, excessive dust, and road debris.

The portable traffic sensors shall be capable of collecting traffic speed data. The processed data is used to remotely control the PCMS to display user definable and locally stored messages. The message trigger thresholds shall be user configurable. The format of the data feed shall be extensible Markup Language (XML), with a known schema shared with the purchaser and made available to the Department. The XML data shall be made available for Department access (including project staff and the Department's Traffic Management Center) through standard Internet connectivity and services, with the provision of a data feed address, port (if applicable), and authentication/sign-on parameters.

The system shall have basic field and network security to protect the system against vandalism and unauthorized use.

The Contractor shall obtain cellular telephone service, FCC licensing, wireless data networks, satellite and internet subscriptions, and other requirements as necessary to operate the system continuously.

Provide an on-site System Coordinator for the SWZS the system components, monitor and adjust the portable devices as necessary, provide documentation in the form of a written weekly report about the system and respond to emergency situations. The System Coordinator shall either be a system vendor representative or shall have received training on the set-up and operation of the system from the system vendor or manufacturer. Provide certification of any such training to the Resident prior to system set-up. The System Coordinator shall work with the Resident on the operation of the SWZS including when to deploy or relocate the field devices, how the system is operating, and when to remove the system. The System Coordinator shall attend the pre-construction meeting and progress meetings. Secure approval from the Department on all PCMS messages prior to use. Be available 7 days a week and 24 hours a day while the system is deployed. Provide the 24/7 contact information for the System Coordinator and others responsible for maintenance of the system prior to installation of the system.

652.3 Smart Work Zone General Operation

The SWZS shall provide required functionality when the traffic sensors are located approximately as follows.

Type 1: The first sensor shall be located at the lane closure, second sensor 0.5 mile back from lane closure, third sensor 1 mile from lane closure, and a fourth sensor located 2 miles from lane closure. The PCMS shall be located 2.5 miles from lane closure. The system shall provide full functionality when the sensors and PCMS are relocated, and field adjusted as needed to provide adequate warning to the motoring public of traffic congestion ahead. Adjust the spacing of the devices and portable PCMS as needed.

Type 2: The Type 2 will utilize the same layout as the Type 1 system for the first 2.5 miles, then expanding the system by adding sensors at each mile and an additional PCMS located at 7 miles from the lane closure.

On entrance ramps within the SWZS operational area, BE PREPARED TO STOP sign downstream from the ROAD WORK AHEAD sign shall be installed and maintained for the duration of the SWZS.

The SWZS shall be installed and operational prior to the start of the placement of the channelizing devices to close any travel lanes. Verify that the system is operating prior to initiating the actual lane closure. The SWZS shall remain in place and operational until after the travel lane is reopened. The system shall constantly monitor traffic and update the messages on the portable PCMS within 15 seconds of a traffic condition requiring a system update. Each message shall be displayed on the portable PCMS for a minimum of 3 minutes.

The SWZS shall be in a constant “data collection” mode. In the event communication is lost between any field equipment, provide a means and staff to manually program a PCMS message. If communication is lost for more than 10 consecutive minutes, the system shall revert to a fail-safe ROAD/WORK/AHEAD message displayed on the PCMS until communication is restored.

The SWZS shall be monitored throughout any period of deployment and the Contractor shall submit a weekly report that will include the following activities during the project:

1. Confirm/note device layout/placement.
2. Confirm/note system data collection parameters that were set and adjusted.
3. Confirm/note startup and validation activities.
4. Note any changes/modifications made throughout the day or any unusual events that may impact the integrity of the data.
5. Confirm/note system shutdown processes and identify any changes that may be needed.
6. Observe device packing processes for relocation to the next work zone area and note any improvements that may be needed to improve the efficiency of the system deployment.
7. Number of and types of activations the system performed.
8. Construction work zone deployments
9. What if any field adjustments were made.
10. Maintain an adequate inventory of parts to support maintenance and repair of the SWZS.
11. The effectiveness of the adjustments made as well as comments from the flagging staff on each end of the active work zone (with and without the SWZS).
12. Public reaction and behavior when in the traffic control.
13. System start up and testing procedures
14. System operational procedures
15. System maintenance procedures
16. System shutdown procedures

SWZS will not be used if there is no queue.

652.7 Method of Measurement the SWZS will be measured based on uninterrupted operation of the complete system per each unit.

- a) The payment of each unit will be payable in installments as follows:
30% payment will be made once the final SWZS is approved and in operation.
The remaining 70% balance to be paid as the work progresses at a rate proportional to the use and operation of the complete system.
- b) If the operation of the SWZS is down for more than five (5) total accumulative days, payment will be reduced by 10% and the Contractor will prepare and submit a plan to restore uninterrupted operations of the SWZ system.

652.8 Basis of Payment Accepted SWZS will be at the Contract unit price per each for uninterrupted operation that shall include furnishing, installing, operating, servicing, maintaining, cleaning, repair, all materials, equipment, tools, labor, relocating and removing an automated SWZS. All operational and service costs, FCC licensing, wireless data networks, satellite and internet subscriptions, and other requirements as necessary to operate the system continuously.

Payment will be made under:

<u>Item Number</u>	<u>Description</u>	<u>Unit</u>
652.441	Type 1 Smart Wok Zone System	EA
652.442	Type 2 Smart Wok Zone System	EA