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GOVERNOR

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

David Bernhardt
COMMISSIONER

August 28, 2014
Subject: **Durham & Lisbon**
State WIN: 018239.00 &
018382.00
Amendment No. 3

Dear Sir/Ms:

Make the following changes to the Bid documents:

In the Bid Book (pages 71-77) **REMOVE** "Special Provision Section 105 General Scope of Work (Environmental Requirements)", seven pages, dated 8/22/14 and **REPLACE** with the attached new "Special Provision Section 105 General Scope of Work (Environmental Requirements)", seven pages, dated 8/27/14.

The following question has been received:

Question: Can a clean rock causeway be substituted for the pile supported trestle, at a different location?

Response: No.

Question: On page 71 there is a definition of "In-Water Work", what is the elevation of "normal high water"?

Response: Please see the attached new Special Provision 105 General Scope of Work (Environmental Requirements). The first paragraph has been revised to clarify the definition of In-Water work.

Question: Referring to the "Dowel Notes" on plan sheet #19A of 87 and plan sheet #8A of 49, is it permissible to precast the hole in the precast concrete block leaving a minimum 2-1/2" plastic pipe "sleeve" in the dowel hole?

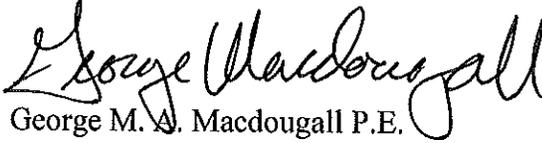
Response: Yes, the hole in the precast concrete blocks can be cast with a PVC sleeve with a minimum inner diameter of 2-1/2 inches if the top of the sleeve is not left exposed after grouting. The sleeve shall be recessed a minimum of a 1/4 inch from the top of the precast and grouted over.



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Consider this information prior to submitting your bid on September 10, 2014.

Sincerely,

A handwritten signature in black ink, appearing to read "George Macdougall". The signature is written in a cursive style with a large initial "G".

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

SPECIAL PROVISION
SECTION 105
General Scope of Work
(Environmental Requirements)

In-Water work consists of any activity conducted in the water.

Definitions:

1. **“Significant sound level”** is defined as noise levels as measured at 10 meters from the source as above the behavioral threshold of 150 dB re 1 μ Pa RMS SPL.
2. **“Injury threshold”** is defined as 206 dB PEAK re 1 μ Pa or 187 dB CSEL re 1 μ Pa. For sustained noise activities such as vibratory pile driving, hoe ramming or rock drilling, sound levels are more likely to approach the 187dB re 1 μ Pa CSEL. For short-duration, peak noise activities such as blasting and impact pile driving, sound levels are more likely to approach 206 PEAK dB re 1 μ Pa
3. **“Noise Buffer Zone”** is defined as the area between 200 feet downstream of existing bridge and 200 feet upstream of the proposed bridge)
4. **“In-water noise producing activities”** is defined as those likely to generate significant sound level. Includes but is not limited to hoe ramming, rock drilling, rock blasting, pile-driving with impact or vibratory hammers
5. **“Atlantic Salmon Tracking”** refers to MaineDOT coordination with Maine Department of Marine Resource to collect data on tagged salmon presence in the project vicinity to minimize impacts to Atlantic salmon. MaineDOT will inform the contractor when Atlantic salmon are known to be within the area bounded by 300 feet downstream of the existing bridge and 300 upstream of the proposed bridge. When this occurs, coordination with MaineDOT, hydroacoustic monitoring and attenuation for in-water noise producing activities will be required.

If Atlantic salmon enter the Noise Buffer Zone, all in-stream noise producing activities shall cease until there are no longer Atlantic salmon present in the Noise Buffer Zone or until attenuation and hydroacoustic monitoring ensure that sound levels are maintained below 187 dB re 1 μ Pa²-s cSEL and 206 dB re 1 μ Pa Peak SPL.

I. In-water work

1. In-water work is allowed between July 15 and March 31 with conditions for in-stream noise-producing activities. In-water work is prohibited between April 1 and July 14.
2. In-water noise producing activities shall be conditionally allowed between July 15 and March 31.
 - a) Sound levels shall be maintained at levels below 187 dB re 1 μ Pa²-s cSEL and 206 dB re 1 μ Pa Peak SPL (injury threshold).
 - b) In-water noise levels greater than 150dB RMS re 1 μ Pa measured at any hydrophone must not persist in excess of 12 consecutive hours on any given day, and a 12 hour recovery period (i.e., in-water noise below 150dB RMS re 1 μ Pa, or a return to ambient levels) must be provided between work days.

3. The following additional conditions apply to in-water noise-producing activities:

April 1 to July 14	1. No in-water noise producing activities. No hoe ramming, rock drilling, rock blasting, pile-driving with impact or vibratory hammers or any activity expected to generate significant sound levels.
July 15 to August 14	1. Hydroacoustic monitoring and attenuation required. See Section II.
August 15-September 14	1. Hydroacoustic monitoring and attenuation required. See Section II. 2. MaineDOT will use Atlantic Salmon Tracking to determine Atlantic salmon presence in the project area. 3. Contact MaineDOT Environmental Office (Eric Ham, 215-7356, eric.ham@maine.gov) to determine if monitoring, attenuation, and tracking can be suspended based on seasonal water temperature.
September 15 to September 30	1. Hydroacoustic monitoring and attenuation required. See Section II. 2. MaineDOT will use Atlantic Salmon Tracking to determine Atlantic salmon presence in the project area.
October 1 to November 30	1. Hydroacoustic monitoring and attenuation required. See Section II. 2. MaineDOT will use Atlantic Salmon Tracking to determine Atlantic salmon presence in the project area. 3. In-water noise producing activities shall be limited to the daylight period between October 1 and November 30. The daylight period is defined as 0.5 hours after sunrise and 0.5 hours before sunset based on the <i>U.S. Naval Observatory Data</i> (Eastern Standard Time).
December 1 to March 31	1. Attenuation for pile driving through the use of driving shoe(s), cushion(s), etc. is required at all times. 2. MaineDOT will use Atlantic Salmon Tracking to determine Atlantic salmon presence in the project area. 3. If Atlantic salmon enter the Noise Buffer Zone, (and river temperature is below 23 degrees Celsius), all in-stream noise producing activities shall cease until there are no longer Atlantic salmon present in the Noise Buffer Zone <u>or</u> until attenuation and hydroacoustic monitoring ensure that sound levels are maintained below 187 dB re 1 μ Pa ² -s cSEL and 206 dB re 1 μ Pa Peak SPL.

II. Hydroacoustic Monitoring & Attenuation

1. The contractor shall retain the services of a qualified person or firm to prepare and implement a hydroacoustic monitoring plan. A list of pre-qualified noise monitoring persons and firms can be found at the following link (Item 502.30) :

<http://www.maine.gov/tools/whatsnew/attach.php?id=94083&an=2>. The contractor shall provide MaineDOT a draft hydroacoustic monitoring plan at least 30 days prior to implementation for review. The monitoring plan shall describe monitoring locations, equipment and protocols, and personnel and shall describe how the contractor will complete the following:

- a) Monitor Sound Pressure Level (SPL) during all pile driving, rock drilling, and pier removal using a series of hydrophones and a digital recorder capable of operating at a minimum of 600,000 samples per second for a minimum of one second, with an adjustable trigger level, and a range of at least 30 psi.

Initially, a minimum of three hydrophones must be used, located approximately 10, 20, and 40 meters from the in-stream sound producing activity. Additional hydrophones may be required to document sound levels remain below the previously established thresholds at mid-stream, and at the farthest bank.

- b) Ensure that the sound pressure levels at all hydrophones be maintained below 206 dB PEAK re 1 μ Pa and below 187 dB CSEL re 1 μ Pa. In-water noise levels greater than 150dB RMS re 1 μ Pa measured at any hydrophone must not persist in excess of 12 consecutive hours on any given day, and a 12 hour recovery period (i.e., in-water noise below 150dB RMS re 1 μ Pa, or a return to ambient levels) must be provided between work days.
- c) Acoustic monitoring will be required at the beginning of each activity and activity location. If noise intensity levels approach the published threshold for having the potential to injure listed species (187 dB re 1 μ Pa CSEL and/or 206 PEAK dB re 1 μ Pa), noise minimization measures shall be used during that noise-producing activity. Should recorded underwater noise fall below the threshold for indication of potential injury of listing species (187 dB re 1 μ Pa CSEL and/or 206 PEAK dB re 1 μ Pa) during the activity, then persistent acoustic monitoring can be replaced with intermittent subset monitoring for the remainder of the activity at that location. Monitoring will continue until recorded underwater noise is shown to be consistently below the threshold for potential behavioral modification by listed species. This decision will be made in conjunction with FHWA, USACE, and USFWS.
- d) Mitigate excessive underwater noise (>206 dB PEAK re 1 μ Pa, 187 dB SEL re 1 μ Pa, or 150dB RMS re 1 μ Pa in excess of 12 hours) through passive measures such as changing hammer type, reducing driving duration, reducing force settings on the hammer, or through active measures such as but not limited to cushions, blast mats, or bubble curtains. The contractor shall employ all reasonable and prudent measures including but not limited to those listed above. If underwater noise continues to exceed noise limits, the contractor shall the stop noise-producing activity and shall contact MaineDOT to determine next steps.

2. The planning, design, execution, and reporting of all noise monitoring activities, including any noise attenuation countermeasures necessary to meet threshold and permitting requirements, shall be incidental to related contract items.

IV. Blasting (applies to all blasting, not just in-water)

1. To the extent practicable, all blasting activities will occur "in the dry" once the cofferdam has been installed and the excavation area has been dewatered. However, for the cofferdam at the rock island pier location, it may not be possible to work completely in the dry. If in-water blasting is required at the rock island pier, the contractor shall attenuate to ensure that sound pressure levels do not exceed 206 dB PEAK re 1 μ Pa, or 187 dB SEL re 1 μ Pa.

2. If blasting is necessary, the contractor shall submit a blasting plan to MaineDOT at least 45 days prior to planned detonation. MaineDOT will review and submit to U.S. Fish and Wildlife Service (USFWS) and Army Corps of Engineers (ACOE) for review and written approval. USFWS will target 30 days for review and approval of the blasting plan; however, this timeframe is not guaranteed. The plan shall address the following items:

- a) Design information on each charge (e.g., type of explosive and detonation velocity (burn rate), type of blasting technique used, borehole dimensions, spacing, charge weights, delay intervals, method of initiation, and noise mitigation plans).
- b) Sound Pressure Level (SPL) blast monitoring using a hydrophone and digital recorder capable of operating at a minimum of 600,000 samples per second for a minimum of one second, with an adjustable trigger level and a range of at least 30 psi. Calculate Sound Exposure Level (SEL) from the SPL waveform, and report results prior to loading for the next blast, so that adjustments can be made if necessary. A minimum of three hydrophones shall be utilized, located approximately 30, 65, and 200 feet from the source/water interface;
- c) Details of the blast loading for each blast, and require that initial test blasting utilize small charge weights;
- d) The peak SPL, at the closest hydrophone, shall be maintained below 206 dB re 1 uPa (3.6 psi), and below an SEL of 187 dB re 1 uPa sq.-sec

3. After each blast, the contractor shall submit a monitoring update to USFWS (Thomas Davidowicz, thomas_davidowicz@fws.gov) and MaineDOT (Eric Ham, Eric.Ham@maine.gov) within 5 days by electronic mail that includes the date, time, distance, peak pressure (with rise and fall time), the number of detonation, the dB, the SPL level and the SEL level;

4. At the completion of each blasting period, the contractor shall provide a monitoring report that will include a summary of each blast with maximum charge weight per delay, and the resulting SPL 13 and SEL. Blast reports, including hole spacing depths, loading, stemming, and delay sequence will also be included, as well as pressure time histories (graphs and data) for each blast.

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5. During all blasts, the contractor shall allow a MaineDOT observer to be present on site to monitor for the presence of fish in the work area. The observer(s) will monitor for the presence of dead or wounded fish. In the event that dead or wounded fish of any species is observed from the blast activities, the permittee shall contact USFWS and blasting shall cease immediately and shall not resume until approval has been received from the Service;

V. Approvals:

1. Temporary Soil Erosion and Water Pollution Control Plan
2. Army Corps of Engineers Category 2 Programmatic General Permit Standard and Special Conditions apply.
3. DEP Permit-by-Rule and Section 11 Standards Apply.
4. USFWS Section 7 Informal Section 7 Consultation conditions apply (summarized in this Special Provision 105).
5. Blasting Plan (See Section IV of this Special Provision)
6. Permitted Resource Impacts (square feet), see ACOE permit for locations:

<i>Wetland:</i>	<i>Stream:</i>
<i>Permanent: 700</i>	<i>Permanent: RUS-2,200</i>
	<i>Temporary: RUS- 1,500 (Riverbed impacts.</i>
	<i>Surface area of work trestle not jurisdictional)</i>

VI. Other Conditions:

1. The contractor shall employ containment methods for all ledge and bridge removal activities. Measures could include blast mats, turbidity curtains, or work within the constructed cofferdams. Any material that is to be removed from the river with a clamshell shall be done promptly.
2. The contractor shall hold a pre-construction meeting for each project with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the MaineDOT construction crew or contractor(s) to review all procedures and requirements for avoiding and minimizing effects to Atlantic salmon and to emphasize the importance of these measures for protecting salmon and their habitat. ACOE (Jay Clement, Jay.I.clement@usace.army.mil) and Service staff (Thomas Davidowicz, thomas_davidowicz@fws.gov) shall be invited to attend these meetings.
3. If cofferdams are placed within the water column, they will be installed in a manner so as to avoid trapping significant amounts of water or any fish. The contractor (through the resident) shall contact MaineDOT's Environmental Office (Eric Ham, 215-7356 and Mike Clark, 592-8242) to coordinate dewatering and fish evacuation. The contractor shall partially construct the cofferdam and MaineDOT Biologist(s) (or approved consultants) will capture and carefully remove as many fish species as possible from within the work area prior to cofferdam closure. Once the final sheets are installed and the cofferdam is closed, MaineDOT Biologist(s) will inspect for trapped fish before dewatering begins. If any Atlantic salmon are observed, the contractor will be notified and shall immediately stop all work associated with the cofferdam until MaineDOT can coordinate with USFWS, NMFS, or Maine Department of Marine Resources to remove the fish.
4. The contractor shall minimize the potential for effects to Atlantic salmon and their habitat by conducting all construction activities for each project in accordance with the MEDOT-approved Soil Erosion and Water Pollution Control Plan. In stream turbidity shall be visually monitored and all erosion controls will be inspected daily to ensure that the measures taken are adequate. If inspection shows that the erosion controls are ineffective, immediate action shall be taken to repair, replace, or reinforce controls as necessary.

5. A migratory fish passage shall be available at all times throughout the duration of construction.
 6. If water control pumps are necessary, in order to prevent Atlantic salmon juvenile entrainment related to dewatering water diversions, the contractor shall use a screen on each pump intake designed such that the approach velocity does not exceed 0.20 foot/second (6.10 cm/s). Square or round screen face openings are not to exceed 3/32 inches (2.38 mm) measured on a diagonal. Criteria for slotted face openings shall not exceed 1/16 inches (approximately 1.75 mm) in the narrow direction. Intake hoses shall be regularly monitored while pumping to minimize adverse effects to Atlantic salmon or other species of management concern.
 7. Disturbed areas adjacent to the stream shall be stabilized and re-vegetated with a seed mix appropriate for riparian areas in Maine, except in areas where riprap has been placed.
 8. To minimize the spread of noxious weeds into the riparian zone, all off-road equipment and vehicles (operating off of existing open and maintained roads) shall be cleaned prior to entering the construction site to remove all soil, seeds, vegetation, or other debris that could contain seeds or reproductive portions of plants. All equipment shall be inspected prior to off-loading to ensure that they are clean.
 9. As a component of the SEWPCP required for each project, MaineDOT or their contractor will develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) designed to avoid any stream impacts from hazardous chemicals, such as diesel fuel, oil, lubricants, and other hazardous materials. All refueling or equipment maintenance will take place away from the stream and in a careful manner that prohibits chemical or other hazardous materials from entering the stream. These measures include the following:
 - a) All vehicle and equipment refueling activities shall occur more than 100 feet from any water course.
 - b) All vehicles carrying fuel shall have specific equipment and materials needed to contain or clean up any incidental spills at the Project site. Equipment and materials would include spill kits appropriately sized for specific quantities of fuel, shovels, absorbent pads, straw bales, containment structures and liners, and/or booms.
 - c) During use, all pumps and generators shall have appropriate spill containment structures and/or absorbent pads in place.
 - d) All equipment used for in-stream work shall be cleaned of external oil, grease, dirt, and mud. Any leaks or accumulations of these materials would be corrected before entering areas that drain directly to streams or wetlands.
- VII. All activities are prohibited (including placement and removal of cofferdams unless otherwise permitted by Regulatory Agencies) below the normal high water mark if outside the prescribed in-water work window, except for the following:
1. Work within a cofferdam constructed according to MaineDOT's Standard Specifications and in adherence with the contractors approved "Soil Erosion and Water Pollution Control Plan".
- VIII. No work is allowed that completely blocks a river, stream, or brook without providing downstream flow.

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NOTE: Regulatory Review and Approval is required to modify the existing In-Water work windows. Approval of modifications is not guaranteed and may result in delays that are the sole responsibility of the contractor.