

September 1, 2017

Special Master Susan Calkins  
2112 Promontory Point Lane  
Gold River, CA 95670



**Subject: Monthly Status Report 19 for July 2017  
Penobscot River Estuary Phase III - Engineering Study**

Dear Ms. Calkins:

Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) is pleased to submit this monthly Status Report for the Penobscot River Estuary Phase III - Engineering Study. This report covers the period from July 1, 2017 through July 30, 2017. A cash flow projection for the following 6-month period is also attached.

**ACTIVITIES AND EVENTS DURING THE REPORTING PERIOD**

Task 2A - Technologies and Remedial Approaches for Consideration

- *Work Order 2A-030A - Bench-Scale/Pilot Studies: Phase 1 Work Plans - Bench Scale & Pilot-Scale Constructability*
  - Work Plans submitted to the Litigants/Special Master in July 2017: Dewatering Work Plan, Leachability & Toxicity Work Plan, Resampling Amendment Test Plot Work Plan, Sediment Erosion & Transport Work Plan
  - July 24, 2017: Comments received from Litigants on Dewatering Work Plan, Leachability & Toxicity Work Plan, and Resampling Amendment Test Plot Work Plan
- *Work Order 2A-040A - Permitting Support for Alternatives Evaluation*
  - July 13, 2017: Meeting held in Bangor Maine with NOAA, USACE, ME DEP, ME DIFW, and ME DMR to discuss permitting issues associated with potential remedial actions
- *Work Order 2A-051 - Leachability/Toxicity Testing*
  - July 18, 2017: WO 2A-051 Leachability/Toxicity Testing work order submitted to Court/Litigants; Scope: collect and analyze data to assess leachability of mercury from wood waste, toxic effects of amendments on test organisms, and changes in methyl mercury concentrations in the test organisms resulting from the addition of amendments
  - July 20, 2017: WO 2A-051 Leachability/Toxicity Testing work order awarded
- *Work Order 2A-053 - Dewatering / Flocculant Testing / Water Treatment*
  - July 18, 2017: WO 2A-053 Dewatering / Flocculant Testing / Water Treatment work order submitted to Court/Litigants; Scope: Evaluate dewatering of sediment to support evaluation of dredging, estimate the volume of dewatered sediments and stabilization potential, evaluate whether the wood waste would require an alternative dewatering process, and compare dewatering fluids analytical results to potential discharge standards
  - July 20, 2017: WO 2A-053 Dewatering / Flocculant Testing / Water Treatment work order awarded

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- *Work Order 2A-054 - Sediment Erosion and Transport Testing*
  - July 18, 2017: WO 2A-054 - Sediment Erosion and Transport Testing work order submitted to Court/Litigants; Scope: collect and analyze data to assess the erodibility of sediments to better understand whether areas are stable or erodible
  - July 24, 2017: Mallinckrodt submits comments on WO 2A-054
- *Work Order 2A-055 – Amendment Test Plot Re-sampling*
  - July 10, 2017: WO 2A-055 - Amendment Test Plot Re-sampling work order submitted to Court/Litigants; Scope: Re-sampling of 2010 Mendall Marsh amendment test plots to evaluate if amendments continue to lower available methyl mercury concentrations over a longer time period, the soil depth to which amendments have penetrated, and amendment retention
  - July 12, 2017: WO 2A-055 Amendment Test Plot Re-sampling work order awarded
- *Work Order 2A-080 – Alternatives Evaluation Report*
  - Development of Alternatives Analysis Report continued in July 2017
- *Work Order 2A-100 – Hydrodynamic Evaluation*
  - Amec Foster Wheeler continued development of the 2-D hydrodynamic model
  - Subcontracting of the US Army Corps of Engineers, ERDC for SedFlume testing and the USGS for ADCP and CTD profiles in the river continued

#### Tasks 3/3A - Risk Reduction Evaluation

- *Work Order 3A-010 - BAFs/BSAFs, Biota Trending Analysis:*
  - July 12, 2017: The Draft 2016 BSAF Technical Memorandum was submitted to the Litigants/Special Master
- *Work Order 3A-020 – Baseline Risk Assessments:*
  - Work on baseline risk assessments continued in July 2017

#### Tasks 4/4A - Potential Data Needs and Additional Field Work

- *Work Order 004 - 2016 Sediment and Water Quality Monitoring:*
  - Revisions to the Draft 2016 Sediment and Water Quality Monitoring Report were conducted based on comments from NRDC and Mallinckrodt
- *Work Order 005 - 2016 Biota Monitoring:*
  - Revisions to the Draft 2016 Biota Monitoring Report were conducted based on comments from NRDC and Mallinckrodt
- *Work Order 4A-010 - Analytical Methods Evaluation and OC Study (formerly Work Order 012):*
  - Work continued on the Analytical Methods Development and Comparison Study Technical Memorandum
  - Continued development and refinement of the Conceptual Site Model for the project
- *Work Order 4A-020 - Analyses/Evaluation of WO 003A Samples:*
  - July 12, 2017: Draft 2016 Mobile Sediment Characterization Report submitted to Court/Litigants
- *Work Order 4A-030 – 2017 Marsh Platform Sediment Characterization:*
  - Sediment sampling for WO 4A-030 was initiated in July 2017

- *Work Order 4A-040 – 2017 Sediment and Water Quality Monitoring:*
  - Sediment sampling for WO 4A-040 was initiated in July 2017
  - A re-built turbidity meter was installed on July 14, 2017, replacing the temporary turbidity meter; the re-built turbidity meter is functioning properly
- *Work Order 4A-050 – 2017 Biota Monitoring:*
  - Bird, spider, and insect sampling was completed in early July 2017
  - Sediment sampling for WO 4A-050 sediments co-located with 2017 biota sampling locations was initiated in July 2017
  - Planning of the field schedule and staffing for 2017 fish and shellfish biota monitoring to be conducted in September 2017 were initiated
- *Work Order 4A-060 – 2017 Additional Mobile Pool Characterization:*
  - Geophysical and physical data collection activities for mobile sediments/wood debris were initiated in July 2017
- *Work Order 4A-070 – 2017 Intertidal and Subtidal Sediment Characterization:*
  - Evaluations of sampling techniques for intertidal and subtidal sediments was conducted in July 2017
- *Work Order 4A-080 – Thin Interval Coring*
  - July 21, 2017: WO 4A-080 – Thin Interval Coring work order submitted to Court/Litigants; Scope: collect and analyze sediment cores to assess geochronology, sediment deposition rates, and to evaluate spatial distribution of mercury at depth in Mendall Marsh
  - July 28, 2017: WO 4A-080 Amendment Test Plot Re-sampling work order awarded

#### Tasks 5A – Phase III Engineering Study Report

- *Work Order 5A-010 - Phase III Engineering Study Report*
  - No activities were conducted under this work order during the reporting period

#### Tasks 6A – Meetings/Communications

- *Work Order 6A-010 - Meetings/Reporting: Nov 2016 thru July 2017*
  - July 18, 2017: Amec Foster Wheeler submitted Invoice # J08223759 for the month of June 2017 to the Special Master/Litigants
  - July 19, 2017: Amec Foster Wheeler submitted the Monthly Report for the month of June 2017 to the Special Master/Litigants
  - July 20, 2017: Quarterly Project Status Meeting held with the Special Master/Litigants in Boston, MA
- *Work Order 6A-020 - Meetings/Reporting: Aug 2017 thru Mar 2018*
  - July 5, 2017: WO 6A-020 Meetings/Reporting: Aug 2017 thru Mar 2018 work order awarded

Task 7/7A – Community Involvement

- *Work Order 006 - Community Involvement:*
  - Email received July 25, 2017 from Bangor Daily News requesting information on the Southern Cove dredging activity; draft response issued to Litigants/Special Master on July 27, 2017
  - July 26, 2017: Amec Foster Wheeler met with Meredith Mendleson of ME DMR in Belfast, Maine and discussed the proposed stakeholder outreach; Ms. Mendelson provided some contact names in anticipation of a proposed meeting with area lobstermen in August 2017; she did identify a concern about communication regarding the mercury impacts and lobster, and how that could reflect negatively on the market; Ms. Mendleson also provided a copy of the ME DMR “Notice of Agency Rule-Making Adoption” for the closure, which included comments they heard.
  - Discussions were had with the following stakeholder groups:
    - DMR
    - Friends of Penobscot Bay
    - Island Institute
    - Islesboro Islands Trust
    - Maine Lobstering Union
    - Penobscot Bay & River Pilots Association
    - Penobscot Indian Nation
    - Town of Castine
    - Town of Hampden
    - Town of Penobscot
    - Town of Searsport Survey responses continued to be received in July 2017
  - Initiated planning for meetings with lobstermen in the upper Penobscot Bay region
  - Updated the website document repository to include the most recent monthly reports and approved work orders
- *Work Order 7A-010 – Community Involvement*
  - July 10, 2017: WO 7A-010 Community Involvement work order awarded

**PROPOSED ACTIVITIES FOR THE FOLLOWING PERIOD**

Tasks 2/2A - Technologies and Remedial Approaches for Consideration

- *Work Order 2A-030A - Bench-Scale/Pilot Studies: Phase 1 Work Plans - Bench Scale & Pilot-Scale Constructability*
  - Respond to comments on the Work Plans form the Special Master/Litigants
- *Work Order 2A-040A - Permitting Support for Alternatives Evaluation*
  - Continue to engage regulatory agencies, as necessary, regarding permitting issues for potential remedial alternatives
- *Work Order 2A-051 - Leachability/Toxicity Testing*
  - Plan for sample collection in September 2017
  - Initiate subcontracting for testing subcontractor(s)
- *Work Order 2A-053 - Dewatering / Flocculant Testing / Water Treatment*
  - Plan for sample collection in September 2017
  - Initiate subcontracting for testing subcontractor(s)
- *Work Order 2A-054 - Sediment Erosion and Transport Testing*

- Receive award for WO 2A-054
- Plan for sample collection in September 2017
- Initiate subcontracting for testing subcontractor(s)
- *Work Order 2A-055 – Amendment Test Plot Re-sampling*
  - Plan for sample collection in September 2017
  - Initiate subcontracting for testing subcontractor(s)
- *Work Order 2A-080 - Alternatives Evaluation*
  - Continue development of remedial alternatives
- *Work Order 2A-100 - Hydrodynamic Evaluation*
  - Continue development of 2-D hydrodynamic model
  - Prepare for field events to collect tidal levels, ADCP, CDT, and SedFlume data in September 2011

#### Task 3 - Risk Reduction Evaluation

- *Work Order 3A-010 – BAFs/BSAFs, Biota Trend Analyses:*
  - Respond to Special Master/Litigant comments on the Draft 2016 BSAF Technical Memorandum
- *Work Order 3A-020 – Baseline Risk Assessments:*
  - Continue development of baseline risk assessments

#### Task 4 - Potential Data Needs and Additional Field Work

- *Work Order 004 – 2016 Sediment and Water Quality Monitoring:*
  - Submit Final 2016 Sediment and Water Quality Monitoring Report
- *Work Order 005 – 2016 Biota Monitoring:*
  - Revise Draft 2016 Biota Monitoring Report based on comments from the Litigants
  - Submit Final 2016 Biota Monitoring Report
- *Work Order 4A-010 - Analytical Methods Evaluation and OC Study (formerly Work Order 012):*
  - Submit Technical Memorandum regarding analytical methods development and comparison study
  - Continue to refine and update the CSM
- *Work Order 4A-020 - Analyses/Evaluation of WO 003A Samples:*
  - Respond to Special Master/Litigant comments on the Draft 2016 Mobile Sediment Characterization Report
- *Work Order 4A-030 - Additional Marsh Platform Characterization:*
  - Complete collection of sediment cores in August 2017
  - Initiate analysis of sediment core samples
- *Work Order 4A-040 - 2017 Sediment & Water Quality Monitoring:*
  - Complete collection of sediment cores in August 2017
  - Initiate analysis of sediment core samples
- *Work Order 4A-050 - 2017 Biota Monitoring*

- Monitor laboratory analytical progress for samples submitted in June and July 2017
- Prepare for fish/shellfish collection in September 2017
- *Work Order 4A-060 - Additional Mobile Pool Characterization*
  - Conduct preliminary evaluation of July 2017 geophysical and physical sampling of mobile sediment pool
- *Work Order 4A-070 - Additional Intertidal and Subtidal Sediment Characterization*
  - Initiate collection of sediment samples in late August 2017
- *Work Order 4A-080 - Sediment Geochronology Cores*
  - Initiate universities subcontracting
  - Plan for sediment core collection in September 2017

#### Task 6A – Meetings/Communications

- Prepare and submit invoice, monthly report, cash flow projection, and updated project schedule for August 2017 to the Special Master/Litigants
- Prepare for and attend August 17, 2017 Monthly Project Status Call with Special Master/Litigants
- Submit meeting minutes for August 17, 2017 Monthly Project Status Call

#### Task 7/7A – Community Involvement

- *Work Orders 006/7A-010 - Community Involvement:*
- Continue to monitor online survey responses regarding website
- Attend meetings with local area lobstermen to present status of Phase III Engineering Study
- Follow-up by phone or email with interested parties

#### **FUTURE MEETINGS AND CONFERENCE CALLS**

- The next Quarterly Project Status Meeting with the Special Master and Litigants will be held in Bangor, Maine on October 4 and 5, 2017. A tour of the river by boat will be conducted on one of these days, dependent upon weather conditions
- The next Monthly Project Status Call will be held from 1:00 – 2:00 PM (Eastern time) on Thursday, September 14, 2017.

#### **CASH FLOW PROJECTION**

Please refer to Attachment A for the Amec Foster Wheeler financial status summary and cash flow projection for the next six months.

#### **PROJECT DELIVERABLES SCHEDULE**

The schedule below provides an overview of project deliverable dates:

Monthly Status Report 19 for July 2017  
 Penobscot River Estuary Phase III - Engineering Study

| Work Order | Deliverable   | Draft      | Final      |
|------------|---|------------|------------|
| 004        | 2016 Sediment and Surface Water Monitoring Report                           | 3/28/2017  | 7/14/2017  |
| 005        | 2016 Biota Monitoring Report  | 5/28/2017  | 8/30/2017  |
| 2A-030     | Bench Scale Treatability Work Plans   | 7/15/2017  |            |
| 2A-055     | Work Order 2A-055 - Amendment Study Plots Re-sampling                       | 7/10/2017  | 7/12/2017  |
| 7A-010     | Work Order 7A-010 - Addt'l. Support Community Involvement                   | 6/29/2017  | 7/10/2017  |
| 5A-010     | Work Order 5A-010 - Phase III Engineering Study Report                      | 6/30/2017  | 7/3/2017   |
| 6A-020     | Work Order 6A-020 - Meetings: Aug-Dec2017                                   | 6/29/2017  | 7/5/2017   |
| 3A-010     | BSAF Tech Memo  | 7/12/2017  | 9/14/2017  |
| 4A-020     | 2016 Mobile Pool Characterization Report                                    | 7/12/2017  |            |
| 4A-010     | Analytical Methods Evaluation   | 9/8/2017   |            |
| 4A-010     | Conceptual Site Model Tech Memo   | 12/15/2017 |            |
| 4A-030     | Technical Memorandum - 2017 Marsh Platform Characterization                 | 11/1/2017  | 1/15/2018  |
| 4A-040     | 2017 Sediment and Surface Water Monitoring Report                           | 11/1/2017  | 12/18/2017 |
| 3A-020     | Risk Assessment   | 11/9/2017  | 1/12/2018  |
| 4A-070     | Technical Memorandum - 2017 Intertidal & Subtidal Sediment Characterization | 11/15/2017 | 1/30/2017  |
| 4A-060     | Technical Memorandum - 2017 Additional Mobile Pool Characterization         | 11/30/2017 | 2/15/2017  |
| 2A-100     | Hydrodynamic Model  | 12/1/2017  | 2/1/2018   |
| 006        | Community Involvement Plan  | 12/5/2017  | 2/5/2018   |
| 2A-080     | Alternatives Evaluation Report  | 12/15/2017 | 3/5/2018   |
| 3A-020     | Risk Reduction Report   | 1/19/2018  | 3/18/2018  |
| 5A-010     | Phase III Engineering Study Report  | 1/31/2018  | 3/31/2018  |
| 4A-050     | 2017 Biota Monitoring Report  | 3/31/2018  |            |

*Shaded dates indicate actual completion dates*

If you have any questions regarding the information contained in this report, please call me at 207-651-0315.

Sincerely,



Nelson Walter, PE, LSP, LEP, PMP  
 Principal Project Manager

**Attachments**

Attachment A - Cash Flow Projection

cc: Mitchell Bernard (NRDC)      Patricia Duft (Mallinckrodt)  
 Jared Thompson (NRDC)      Jeffrey Talbert (Preti Flaherty)  
 Project File (3616166052)