

Modeling and Regulatory Support Workgroup Meeting May 5, 2020



**Remote
Access Only
(see next
slides)**



Remote Access Options

Equipment Type	Access Information	Notes
Computers with microphones and speakers	Join Microsoft Teams Meeting Please mute your microphone unless you want to provide input.	Press control and click on this link to bring up Microsoft Teams through the internet. You can view the screen share and communicate through your computer's speakers and microphone
Computers without audio capabilities, or audio that is not working	Join Microsoft Teams Meeting (888) 404-2493 Passcode: 371 817 961# Please mute your phone unless you want to provide input.	Follow instructions above Turn down your computer speakers, mute your computer microphone, and dial the toll-free number through your phone and enter the passcode
Phone only	(888) 404-2493 Passcode: 371 817 961# Please mute your phone unless you want to provide input.	Dial the toll-free number and enter the passcode

Remote Access Guidelines

- This meeting will open 30 minutes prior to the official meeting start time to allow users to **test equipment** and ensure communication methods are working
- If you dial in through your phone, mute your microphone and turn down your speakers to **avoid feedback**
- Unless you are speaking, please mute your computer or device microphone and phone microphone to **minimize background noise**

Agenda

- Status updates
 - Allocation of unspent project management and meeting budgets to technical work
 - Amendment 2, FY2020 contract
 - Proposed scope of work for FY2021
 - Modeling and Regulatory Support schedule

Allocation of Unspent Project Management and Meeting Budget

Allocation of Unspent Project Management and Meeting Budget

- Systech Water Resources and Dynamic Solutions anticipate remaining budget in Task 329
- Executive Director grantor permission for each firm to use unspent budget in Task 329 to prepare for FY2021 tasks
- Systech
 - Initiate information request from soil scientist to initialize soil chemistry for WARMF watershed
 - Begin markup of WARMF Lake model segments for discussion with UNRBA subject matter experts
- Dynamic Solutions
 - Begin filling and formatting the water quality observations in Falls Lake to support water quality calibration

Amendment 2, FY2020 Contract

Amendment 2, FY2020 Contract

- On March 18, 2020, the UNRBA Board approved and authorized
 - Contract modifications up to \$20,000 in total for the HDR and MRS contracts for communication activities.
 - Contract modifications of \$23,500 for the MRS contract pending final authorization by DWR of the 319 Grant to expand model code to simulate more types of onsite wastewater treatment systems
 - Executive Director to develop the necessary contract modifications
 - Chair to execute these modifications
- The Executive Director has been working with the contractors to develop the contract modifications
- Amendment 2 for the MRS contract has been executed

Amendment 2 Changes to Task 321

- Allows for an increase in contract amount of \$23,500 **pending final authorization of the 319 grant contract**
- Includes changes to model code and a brief report to DWR
- Contract with DWR allows for six month period to develop code, conduct internal and external testing (UNC Collaboratory), and submit the final report
- The FY2020 contract expires June 30, 2020, but the following language allows extension without Board approval:
“Upon written request from Contractor and upon Contractor’s demonstration of good cause, the Executive Director may extend the Agreement completion date by not more than 6 months without ratification by UNRBA’s Board of Directors.”
- **Anticipate that final invoice for FY2020 will not occur until Fall 2020**
 - Project closeout of 319 project
 - Final data transmittal associated with the Transition Monitoring Program

Amendment 2 Changes to Task 325

- No change in contract amount associated with Task 325
- Modifications to deliverables and meetings
 - Delay of technical stakeholder meeting from Spring to Fall 2020 (Regulatory Forum was focus in Spring 2020)
 - Cancellation of WRRRI conference following submittal of presentation
 - Allowance for deliverables to include technical memorandum or summary report based on MRSW and PFC modeling updates
 - Technical memorandum is in draft
 - Follows organization and information presented at status meetings
 - Some sections are still in draft
 - Outstanding MRSW questions to address
 - Data summary table is in draft

Amendment 2 Changes to Task 325

- FY2020 Deliverable
 - Compilation of presentation materials from MRSW and PFC meetings with table of contents and book marks
 - Catchment delineation
 - Observed flow data and rating curves
 - Meteorology
 - Land use
 - Baseline period versus recent monitoring period
 - Existing, interim, and new development
 - Integration of DOT and Department of Agriculture data
 - Watershed calibration and validation
 - Stream flows
 - Temperature (preliminary)

Proposed Scope of Work for FY2021

Proposed Scope for Task 330

- Setup and hydrologic calibration and validation of WARMF Lake
 - Develop WARMF lake segments with input from UNRBA subject matter experts
 - Process Falls Lake bathymetry data collected by the UNRBA to develop stage-area curves for each segment
 - Link WARMF watershed model output to WARMF lake segments
 - Calibrate and validate the water levels in Falls Lake to USGS measurements at two locations
 - Run baseline period as a scenario

Proposed Scope for Task 331

- Compile and format water quality data inputs and observations
 - WARMF watershed model
 - Soil chemistry
 - Atmospheric deposition
 - Nutrient application rates
 - Wastewater treatment plant effluent data
 - Sanitary sewer overflow data
 - Onsite wastewater treatment system locations and types
 - Regional best management practices
 - EFDC lake model
 - Monitoring data collected in Falls Lake to support calibration
 - Atmospheric deposition
 - In lake sediment chemistry

Proposed Scope for Task 332

- Water quality calibration and validation of WARMF watershed model based on Modeling QAPP
 - Report performance statistics and visual comparisons for 7 locations
 - Provide visual comparisons for other 31 locations
- Preliminary water quality calibration of EFDC lake model
 - Setup and initialization
 - Progressive calibration of water quality parameters at 12 DWR monitoring locations
 - Final calibration for the full set of parameters listed in the QAPP will occur in the first quarter of FY2022
 - This will not impact the schedule for the re-examination package

Proposed Scope for Task 333

- Modeling support
 - Integration of data and special studies into water quality calibration
 - Evaluation of model performance and development of scripts to calculate performance criteria
- Statistical modeling
 - Develop statistical lake segments with input from UNRBA subject matter experts
 - Develop draft model framework (inputs, linkages, outcomes) for discussion with MRSW
 - Identify goals and desired outcomes for the model
 - Define outcomes in terms of metrics, units, and categories of information
 - Exploration of input data sets including local, regional, and national datasets
 - Develop preliminary model structure in R programming language

Proposed Scope for Task 334

- Interim reporting
 - Continued drafting of technical report(s)
 - Generation of status updates and modeling summaries for 6 MRSW, 6 Board, and 12 PFC meetings
 - Generation of materials for external workshops and forums
 - Technical stakeholder workshop summarizing model inputs and hydrologic/hydrodynamic calibration
 - 2021 Regulatory Forum
 - Water Resources Research Institute annual conference

Proposed Scope for Task 334

- Anticipated MRSW meetings
 - August 2020: EFDC hydrodynamic lake calibration
 - September 2020: WARMF lake modeling segments
 - November 2020: statistical modeling framework (segments, inputs, approach, desired outcomes)
 - December 2020: describe watershed modeling inputs related to water quality modeling
 - April 2021: present water quality calibration for the WARMF watershed model
 - June 2021: present preliminary water quality calibration for the lake model

Proposed Scope for Task 335

- Update the multi-year work plan
- Develop scope and contracts for FY2022

Proposed Scope for Task 336

- General regulatory support
 - Planning and preparation for meetings with agency staff, watershed stakeholders, and interested parties
 - Review of materials generated by external parties related to the re-examination
- Support implementation of the IAIA
 - Continue with Program development
 - Present to DEQ and EMC Water Quality Committee
 - Support discussions with local governments
- Cost benefit analysis (depending on final scope of work for FY2020 and budgetary decisions)

Proposed Scope for Task 337 - Communications

- Scope of work is under development

Proposed Scope for Task 338

- Attendance and presentation at meetings and workshops
- Project expenses including mileage, supplies, production, data portals, and lunch for UNRBA Forum

Table 1. Anticipated Meetings and Workshops for FY2021

Month Year	PFC	BOD	MRSW	Other Anticipated Meetings
Jul 2020	•			
Aug 2020	•		•	
Sept 2020	•	•	•	
Oct 2020	•			Technical Workshop
Nov 2020	•	•	•	IAIA Presentation to EMC WQC
Dec 2020	•		•	
Jan 2021	•	•		
Feb 2021	•			Regulatory Forum
Mar 2021	•	•		WWRI
Apr 2021	•		•	
May 2021	•	•		
Jun 2021	•	•	•	

Schedule for Finalizing FY2021 Contracts

- April 22nd – submittal of preliminary draft scope to Executive Director
- April 29th – submittal of preliminary draft scope to the MRSW
- May 5th – presentation of scope to MRSW; status update to PFC
- May 12th – comments back from MRSW on draft scope
- May 20th – status update to Board
- May 26th – revised draft scope to PFC
- June 2nd – presentation of scope and contract to PFC
- June 5th – comments back from PFC on revised draft scope
- June 10th – distribution of contract to the Board for review
- June 17th – approval of contract by the Board
- July 1st – start date for FY2021 contract

Modeling and Regulatory Support Schedule

Schedule Challenges

- USGS released reharmonized land use data 4 months after plan
- NEXRAD precipitation data took longer than anticipated to get from the State Climate Office
- NEXRAD precipitation data required extensive data filling for 2006 that was not anticipated
- FY2020 budget did not accommodate
 - WARMF lake model setup and hydrologic calibration
- FY2021 budget will not accommodate
 - WARMF lake water quality set up and calibration
 - EFDC final water quality calibration
- Interim modeling tasks are affected by one quarter but overall milestones for the project are not

Milestones for Current and Upcoming Modeling and Regulatory Support Tasks

Task	Original Plan	Revised Plan
Model Setup Hydrologic/hydrodynamic calibration		
• WARMF watershed	December 2019	January 2020
• WARMF lake	June 2020	October 2020
• EFDC lake	June 2020	October 2020
Water quality calibration		
• WARMF watershed	December 2020	April 2021
• WARMF lake	June 2021	October 2021
• EFDC lake	June 2021	October 2021
Sensitivity Analyses		
Load Reduction Scenarios	March 2022	March 2022
Cost benefit analyses		
Final Report	September 2022	September 2022
Agency Review Final Report	December 2022	December 2022
UNRBA Re-examination Package	June 2023	June 2023

Modified dates are in bold faced font.

Closing Comments Additional Discussion