STFATE Runs for Staten Island Homeport Pier Dredged Material Disposal at HARS

Response Summary:

Performed STFATE model runs of open water disposal of three reaches of Staten Island Homeport Pier dredged materials at the HARS. Analyzed the standard elutriate test results for the contaminant of concern as part of the Tier 2 analysis. Analyzed the water column toxicity results to determine the dilution required for the limiting permissible concentration as part of the Tier 3 analysis. Summarized the disposal boundary offset values and time to achieve water quality compliance as a function of barge size (3500 and 6000 cubic yards) in a table documenting the results of the review and modeling for the Tier 2 COC (Copper) and the Tier 3 LPC for all reaches.

Period of Performance:

Start date: 4 March 2025 Completion Date: 18 March 2025

Benefits of the Response to the USACE Dredging/Navigation Program:

The modeling and analysis provided the technical documentation to demonstrate water column compliance with MPRSA 103 requirements.

Deliverable:

The technical response to the New York District included STFATE model input and output files, spreadsheet for calculating dilution requirements and materials volumetric fractions, and a summary table of required placement offsets from the disposal site boundaries and times to achieve water quality compliance within the disposal site for suspended phase toxicity LPC in a Tier 3 evaluation. Evaluation of the standard elutriate results determined that the copper concentration for two reaches was in exceedance of acute water quality criteria prior to mixing at placement site.

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