

SOUTH RIVER PHASE 1 INTERIM MEASURES DESIGN, IMPLEMENTATION, AND MONITORING WORK PLAN

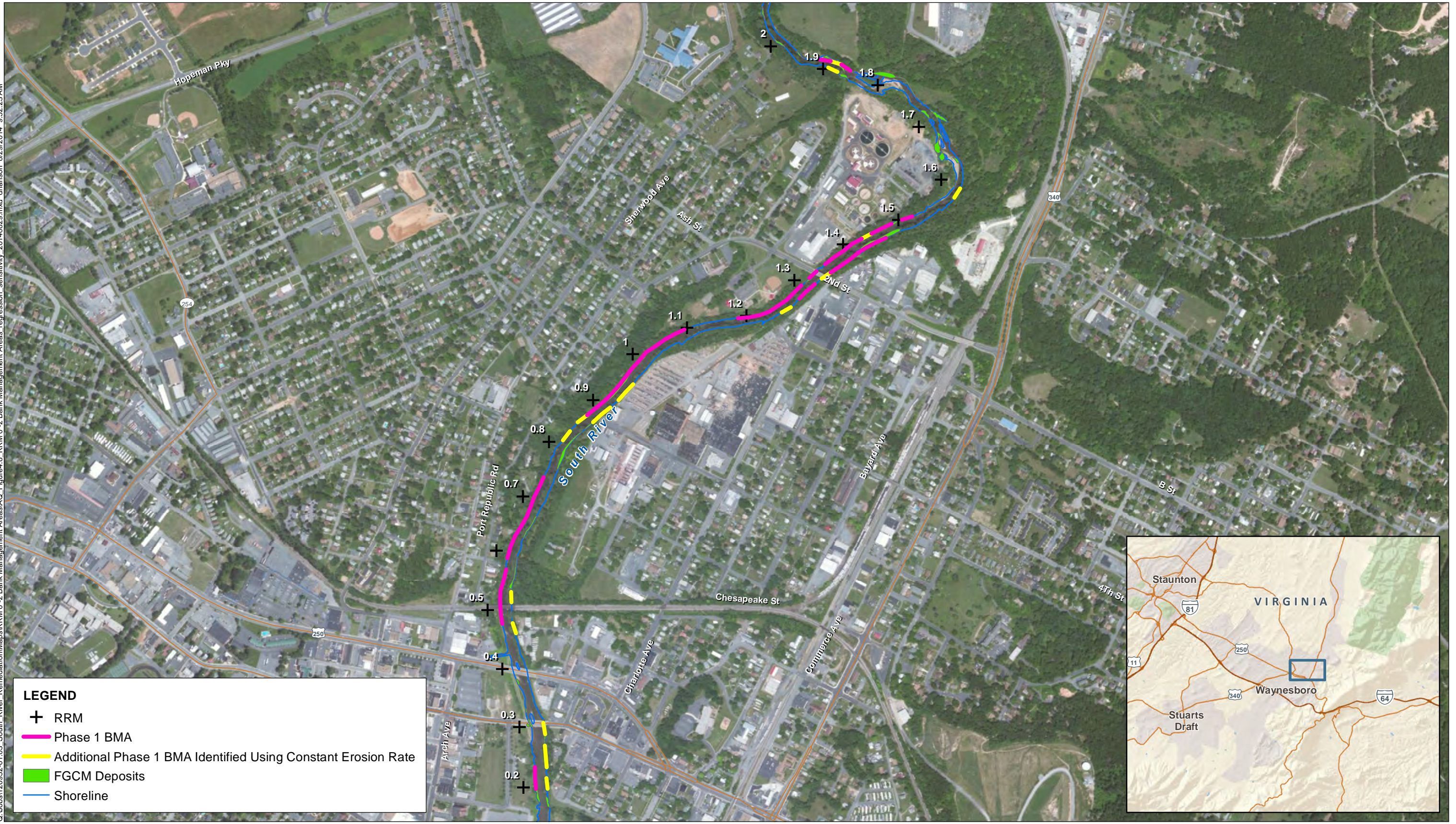
The August 2014 *Interim Measures Design, Implementation, and Monitoring Work Plan* (IM Work Plan) prepared by Anchor QEA, URS Corporation, and E. I. du Pont de Nemours and Company (DuPont) under oversight by the Virginia Department of Environmental Quality outlines the rationale for remediating riverbanks in the South River, Virginia, within an adaptive management framework, and describes the process to design and permit actions in the first 2 relative river miles (RRM) below Waynesboro. The IM Work Plan is part of a larger remedial strategy designed to address mercury historically released from the former DuPont Waynesboro facility to the South River and a portion of the South Fork Shenandoah River. It also reflects the technical and legal frameworks for addressing legacy mercury, agreed to by DuPont with the various governmental and non-governmental parties involved with the South River. The main working hypothesis is that reducing the loading of mercury to the South River in a stepwise, upstream-to-downstream manner will result in progressive improvements within the river and the adjacent riparian zone and floodplain terrestrial environment. Careful monitoring of the outcome of the first set of interim measures (Phase 1) will help adjust the scope of subsequent phases as part of an iterative learning process. As has been the case for collaborative work done since 2001, stakeholder engagement on Phase 1 and subsequent work will take place primarily through the South River Science Team. However, additional outreach to local communities along the South River will be conducted as required under the Resource Conservation and Recovery Act.

Detailed evaluations of shear stresses in the river, bank erosion rates, bank heights, and bank face mercury concentrations were performed to identify those banks that contribute disproportionately to bank erosion loading of total mercury to the South River. Using hydrodynamic and regression models relating peak river shear stress to measured bank erosion rates, approximately 90% of the estimated bank mercury loading to RRM 0 to 2 is likely attributable to roughly 23% (0.9 miles) of the banks. However, because of uncertainties in calculated loadings using the regression model, additional bank segments with relatively higher bank height and bank face total mercury concentrations (with total mercury loadings calculated assuming a constant bank erosion rate) were also included,

providing a more conservative approach to Phase I implementation. Thus, a total of approximately 1.3 miles of banks have been identified as Phase 1 bank management areas (BMAs), and are depicted in the attached figure. Many of these BMAs are also adjacent to existing fine-grained channel margin (FGCM) deposits that can serve as areas of mercury storage and release to the South River, and likely reflect recent erosion from the BMAs. These FGCM deposits will be incorporated into the final design of the BMA interim measures as practicable, resulting in an efficient remediation approach.

The IM Work Plan outlines pre-design sampling and analysis efforts to complete the interim measures design, including additional bathymetric surveys, geotechnical data collection, hydrodynamic modeling, and other activities. Site access/landowner agreements, permit applications, treatability studies, and baseline monitoring will occur concurrent with pre-design efforts. The interim measures design will include Preliminary Design and then Final Design documents. Depending on landowner, permitting, and other requirements, interim measures at the Phase 1 BMAs may include a combination of institutional controls, enhanced vegetative stabilization, structural stabilization, capping, and/or removal options. Construction of the Phase 1 interim measures is currently targeted to begin in early 2016, shortly after completion of source controls at the former Waynesboro facility. Phase 1 construction will likely continue through 2017.

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NOTE:
Aerial image provided by ESRI.

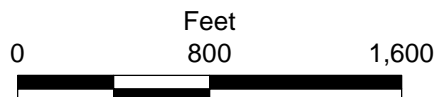


Figure 4-8
Bank Management Areas: RRM 0 to 2
Phase 1 - South River AOC 4 Interim Measures Work Plan
South River