

US EPA ARCHIVE DOCUMENT

U.S. EPA/Ohio EPA/ORSANCO Responses to Comments Received  
from Marilyn Wall on behalf of the Sierra Club  
on the Revised Original LMCPR

The following sets forth responses by the United States Environmental Protection Agency, Ohio Environmental Protection Agency and Ohio River Valley Water Sanitation Commission (collectively, “the regulators”) to comments submitted by Marilyn Wall, on behalf of the Sierra Club on the proposed Revised Original Lower Mill Creek Partial Remedy (Revised Original LMCPR).

**Comment #1:** “Any approval should be conditioned upon MSD submitting a full, acceptable response to the USEPA Guidance.”

**Response:** The scope of the regulators' review and decision on the proposed Revised Original Lower Mill Creek Partial Remedy (LMCPR) under Paragraph A.2.a of the Wet Weather Improvement Program (WWIP) is limited to whether the proposed Revised Original LMCPR “provides equal or greater control of CSO annual volume as the Original LMCPR and is completed by the Phase 1 End Date.” As explained below in the response to Comment #3, Defendants’ proposal meets these criteria. The “USEPA Guidance” referenced in the comment, entitled “Guidance Pertaining to Consideration of Any Proposed Revised Original Lower Mill Creek Partial Remedy Defendants May Choose to Submit in Accordance with Paragraph A.2 of the Wet Weather Improvement Program,” was simply a listing of important points for Defendants to consider on certain issues as it developed its proposed Revised Original LMCPR; it did not and could not replace, revise, or amend the WWIP itself or the consent decrees. Consequently, the regulators do not agree that approval of the proposed Revised Original LMCPR should be conditioned on submission of additional information in response to that guidance document. The regulators further note that Defendants did in fact consider the regulators’ guidance document in developing the proposed Revised Original LMCPR.

**Comment #2:** “As a condition of approval of the proposed Revised Original LMCPR, MSD must submit a plan that shows MSD will not cause or contribute to violations of water quality standards with the implementation of both the LMCPR and the LMCFR.”

**Response:** The primary purpose of the LMCPR has always been to ensure that Defendants implement measures during Phase 1 of the WWIP implementation process to substantially reduce the volume of CSOs into the Lower Mill Creek; with additional measures to be implemented during Phase 2 of the WWIP implementation process necessary for Defendants to achieve compliance with the water-quality based requirements of the Clean Water Act applicable to their CSOs. The need for there to be interim progress toward the CSO control goals for the Lower Mill Creek service area goes back to at least 2008. Regulators initially disapproved the WWIP because, among other things, it needed to reduce CSOs in the LMC basin early on in the implementation of the WWIP. (See file entitled, “*Regulators Ltr Declining to Approve WWIP Nov. 2008.pdf*” included with supplemental materials relevant to the comments received and the responses to comments on the Revised Original LMCPR.) Further CSO controls in the LMC basin will be planned and implemented as part of the Lower Mill Creek Final Remedy (LMCFR). Nothing in the consent decrees or in the WWIP approved under those decrees requires that, as a condition of obtaining approval of a Revised Original LMCPR, Defendants

must develop the type of plan called for by the commenter pertaining to both the LMCPR and the LMCFR.

The commenter also suggests that implementation of the measures required during Phases 1 and 2 of the WWIP will not result in a level of control sufficient to enable Defendants to comply with the water-quality based requirements of the CWA pertaining to their CSOs. However, this issue is not relevant in assessing whether the proposed Revised Original LMCPR meets the criteria specified in Paragraph A.2 of the WWIP of whether the proposed remedy “provides equal or greater control of CSO annual volume as the Original LMCPR.” Instead, as described below, the issue of whether implementation of all the measures required by the WWIP will result in compliance with the CWA will be addressed in accordance with several other aspects of the Global Consent Decree.

First, Subparagraph VII.D.2 of the Global Consent Decree requires that,

Upon Substantial Completion of Construction of all measures under the [WWIP], Defendants’ CSOs shall comply with the Clean Water Act, U.S. EPA’s CSO Policy, Chapter 6111 of the Ohio Revised Code and the rules promulgated thereunder, the Compact and the pollution control standards promulgated thereunder, and Defendants’ Current Permits.

Defendants’ compliance obligations under Subparagraph VII.D.2, therefore, include an obligation to comply with any narrative or numeric water quality based effluent limitations included in the Defendants’ NPDES permits.

Second, Section X of the Global Consent Decree requires that, within five years of the approval of the WWIP, Defendants must develop and submit a Post-Construction Monitoring Study Work Plan. One purpose of that Study is to determine, among other things, whether, as a result of implementation of the WWIP, Defendants’ CSOs are complying with the requirements of Subparagraph VII.D.2; and so that study will necessarily include CSO and water quality monitoring necessary to assess whether water quality standards are being attained.

Third, Defendants could be subject to substantial stipulated penalties in accordance with Subparagraph XVII.E.2(a) of the Global Consent Decree for CSOs that violate the requirements of Subparagraph VII.D.2 after the date for completion of all remedial measures or an approved plan and schedule for implementing additional measures necessary to comply with those requirements in accordance with the “Evaluate and Correct” provisions in Paragraph VII.C of the Global Decree.

Fourth, under Section XXXIII of the Global Consent Decree, the decree cannot be terminated until Defendants have achieved and maintained compliance with all consent decree requirements, including the requirements of Subparagraph VII.D.2.

These provisions will ensure that achievement of compliance with all applicable water-quality based requirements.

**Comment #3:** “Any approval of the LMCPR must be conditioned upon specific water quality performance criteria and verifiable volumetric control for both the LMCPR and the LMCFR, and

must be based on the 2 billion gallon figure set forth in the WWIP.”

**Response:** Nothing in the consent decrees or in the WWIP approved under those decrees requires that, as a condition of obtaining approval of a Revised Original LMCPR, Defendants include performance criteria and volumetric control for the LMCPR. The regulators agree with the commenter about the need to include performance criteria to reflect the CSO volumetric control that must be achieved through implementation of the Revised Original LMCPR (i.e., the interim remedy). As a result, the regulators requested that Defendants modify their proposed Revised Original LMCPR to include such criteria; Defendants agreed to the regulators’ request, submitting a modified Revised Original LMCPR to the regulators in a letter dated May 28, 2013, which includes a verifiable, volumetric control performance criterion: the measures must remove at least 1.78 billion gallons of CSO during a Typical Rainfall Year (1970). Compliance with this Performance Criterion must be achieved upon completion of implementation of the Revised Original LMCPR. Compliance will be determined by utilizing flow monitoring and MSDGC’s hydrologic and hydraulic model. Detailed requirements for this monitoring and modeling demonstration will be established when Defendants develop a Post-Construction Monitoring Study Work Plan in accordance with Section X of the Global Consent Decree. Although there are significant differences in local conditions and approaches under the two programs, an example of a document with the types of provisions that the regulators expect to be included in the Defendants’ Work Plan are the monitoring and modeling provisions included in Section 2.4.1 of Appendix 2 to the consent decree in *United States and State of Ohio v. Northeast Ohio Regional Sewer District*, No. 1:10-cv02895 (N.D. Ohio), which is included with the supplemental materials relevant to the comments received and responses to comments on the Revised Original LMCPR.

The regulators do not agree that the volumetric control requirement that must be met should be based upon either the 2 billion gallon figure specified in Index Line 112 in Attachment 1B to the WWIP for the Grey LMC Default Project or the estimated CSO volume reduction amount of 2,013 million gallons per year for the set of projects specified in Attachment 1C to the WWIP (as was approved in 2010). The scope of the regulators’ review and decision on the proposed Revised Original Lower Mill Creek Partial Remedy (LMCPR) under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPR “provides equal or greater control of CSO annual volume as the *Original LMCPR* and is completed by the Phase 1 End Date” (*emphasis added*). The term “Original LMCPR” is not used anywhere in Attachment 1B, but is instead used in Attachment 1C, and so the benchmark CSO annual volume amount for purposes of evaluating the acceptability of the proposed Revised Original LMCPR in accordance with Paragraph A.2.a of the WWIP should be based upon the language of Attachment 1C. Attachment 1C, in turn, identifies the series of specific measures that comprise the “Original LMCPR.” Although Attachment 1C states that “[t]he currently identified projects will reduce an estimated CSO volume of 2,013 MG/year,” there is nothing in Attachment 1C or anywhere else in the WWIP that requires Defendants to achieve such a reduction as part of the Original LMCPR. This estimate was based on the modeling information that was available at the time the WWIP was submitted. Since then, as discussed below, Defendants have refined and upgraded their model. The updated model shows, among other things, that there is less combined sewer overflow volume in the Mill Creek sewershed than previously thought. In assessing whether the proposed Revised Original LMCPR “provides equal or greater control of CSO annual volume as the Original LMCPR,” the appropriate benchmark is the amount of CSO annual volume that would have been controlled – based on the most up-to-date, accurate modeling information --

had the Original LMCPR been constructed in accordance with Attachment 1C. Under Defendants' revised model, the amount that would have been achieved by implementing the specified projects is 1.78 billion gallons based on Defendants' typical rainfall year of 1970. It is important to note that a 1.78 billion gallons reduction of overflow under the updated modeling represents a more significant reduction in terms of percentage of total overflow (34%) than a 2 billion gallon reduction under the previous modeling would have achieved (24%). See pp. 59-60 in Defendants' December 2012 report.

**Comment #4:** "Any approval of the LMCPR should be conditioned on further refinement and analysis of the model, validation of the model and requirements to disclose any issues discovered with the model in the past and in the future. Conditions should include verifying volumetric controls. Numeric performance goals for water quality and overflow quantities must be established and reductions in overflows verified. Conditional plans must be developed and triggered for implementation if the performance goals are not met (regardless of what the model may have claimed.)"

**Response:** The regulators agree that Defendants should further refine, analyze, validate and disclose issues pertaining to their modeling; should verify compliance with CSO volume reduction performance criteria; and should develop and implement additional measures to further reduce CSO volumes if performance criteria are not achieved. However, these issues need not be included as conditions of approval of the Revised Original LMCPR. Instead, these issues will be adequately addressed through other provisions of the Global Consent Decree. Specifically, as noted above, Section X of the Global Consent Decree requires that Defendants submit to the regulators for approval within five years of the approval of the WWIP "a work plan for conducting an ongoing study or series of studies ("Post-Construction Monitoring Study") to help determine: 1) whether the [WWIP] measures, when completed, meet all design criteria and performance criteria specified in the [WWIP]." To be consistent with the requirements of Section X, the regulators expect that the Work Plan will include provisions for refining, analyzing, validating and disclosing issues pertaining to the modeling; and using the modeling to verify compliance with the Revised Original LMCPR's Performance Criterion of 1.78 billion gallons of CSO annual volume controlled based on Defendants' typical rainfall year of 1970. Once the regulators approve the work plan, Defendants will be required to implement it to, among other things, determine whether the 1.78 billion gallon Performance Criterion has been achieved. If that criterion has not been achieved, and Defendants fail to timely develop and implement remedial measures necessary to achieve the criterion, then Defendants could be subject to substantial stipulated penalties in accordance with Subparagraph XVII.F and/or a judicial action by the regulators to enforce the terms of the Global Consent Decree.

The commenter raises several issues about the hydrology and hydraulic model being used for CSO planning. Defendants have had a model for CSO planning for over 10 years. The model has been fine-tuned and improved over time. There was a significant effort to upgrade the model over the period of 2009-2012. The regulators over the course of several months evaluated the updated model as it is applied in the Lower Mill Creek sewersheds, including reviews of the verification and validation monitoring and analyses that were carried out. The regulators identified no "red flags" that would indicate that the model results are unreliable. Monitoring has been done, and is continuing, to verify and validate model results.



As Defendants implement the Revised Original LMCPR, the LMCPR and other measures required by the WWIP, fine-tuning of the model and verification/validation is expected to continue. It is also expected that enhanced/updated versions of the model will be used to simulate and evaluate system performance in other sewersheds outside of the Lower Mill Creek sewersheds.

**Comment #5:** “Any approval of the LMCPR should include increased water [quality] monitoring.”

**Response:** As noted above, the primary purpose of the LMCPR has always been to ensure that Defendants implement measures during Phase 1 of the WWIP implementation process to substantially reduce the volume of CSOs into the Lower Mill Creek. The WWIP requires additional measures to be implemented during Phase 2 of the WWIP implementation process necessary for Defendants to achieve compliance with the water-quality based requirements of the Clean Water Act applicable to their CSOs. As was also noted above, water quality monitoring will be required as part of the Post-Construction Monitoring Study required by Section X of the Global Consent Decree. Consequently, whether or not the LMCPR will result in compliance with water quality based requirements is not relevant to the regulators’ review and decision on the proposed Revised Original LMCPR under Paragraph A.2.a of the WWIP.

Although not required as part of the WWIP LMCPR process, to complement other CSO planning, modeling, and monitoring work being undertaken, in 2011 MSD contracted with the independent Midwest Biodiversity Institute to conduct a comprehensive assessment of the biological and water quality conditions of Mill Creek and its tributaries. The 2011 study and earlier assessments in these watersheds provide baseline values against which future monitoring results can be evaluated. The 2011 study indicates that the Mill Creek watershed is a recovering system.

**Comment #6:** “Any approval of the LMCPR needs to be conditioned upon MSD demonstrating specific performance criteria for the operation of the RTC at Lick Run, after the LMCPR is complete.”

**Response:** Given the central role it plays in the Revised Original LMCPR, it will be necessary for Defendants to substantially reduce CSOs through operation of the RTC at Lick Run to meet the Revised Original LMCPR performance criterion. In addition, Paragraph XI.A.1 of the Global Consent Decree requires that Defendants comply with the operation and maintenance requirements of their NPDES permits applicable to their sewer system, which will include operation and maintenance of the RTC at Lick Run. These requirements will ensure proper operation and maintenance of the RTC at Lick Run.

**Comment #7:** “Any approval of the LMCPR needs to be conditioned upon MSD increasing the level of public participation toward both collaboration and empowerment, including involving the public in the development of Green Alternatives, and including the public’s recommendations to the maximum extent possible.”

**Response:** The scope of the regulators' review and decision on the proposed Revised Original LMCPR under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPR “provides equal or greater control of CSO annual volume as the Original

LMCPR and is completed by the Phase 1 End Date.” As explained above in the response to Comment #3, Defendants’ proposal meets these criteria. Nothing in the consent decrees or in the WWIP approved under those decrees requires that, as a condition of obtaining approval of a Revised Original LMCPR, Defendants increase public participation in the way described by the commenter. That being said, it is important to note that Defendants have conducted workshops and other public participation events and solicited public comments on the LMCPR. See pages 102 -104 and Appendix G of the December 2012 Revised Original LMCPR document. As implementation of the Revised Original LMCPR proceeds, it is expected that Defendants will conduct targeted outreach to local residents and community groups and engage in dialogue about project parameters. It is important for local residents and business owners to have opportunities for dialogue with public officials on CSO and stormwater projects that will involve construction of new facilities in their neighborhood.

There are multiple opportunities at the local level for public participation in the review and evaluation of MSD capital projects, including projects under the LMCPR. First, MSD capital projects are proposed during budget and legislative proceedings held by the Board of County Commissioners of Hamilton County (BOCCs). As noted in paragraphs C.5 and C.6 of the approved Final WWIP, MSD’s annual Capital Improvement Program (CIP) document is presented by MSD to the BOCC for approval, and the CIP documents are subject to public review and evaluation. The annual CIP document lists individual projects, details, and budgets. The CIP is available to the public and is considered and voted upon by the BOCCs in a public meeting. The individual LMCPR projects will be part of this public process.

Second, because the CIP does not authorize or appropriate funding for the specific contracts needed in the design and construction of MSD projects, a separate public approval process is followed. The BOCCs pass resolutions authorizing the design and construction of individual capital projects. This legislation is proposed by MSD and then considered and voted upon by the BOCCs in open, public proceedings consistent with Ohio Revised Code Section 305.99. Agendas for BOCCs meetings are posted on the County’s web site and the BOCC’s meetings on CIP and capital project legislation are open to the public. The consideration of and approval of the individual construction contracts for LMCPR projects will be part of this public process. Third, quarterly and annual status reports on MSD construction projects as required by the Consent Decrees, are submitted to the Regulators, and these reports are posted on the MSD Project Groundwork website. Paper copies of these reports may also be requested by calling, emailing or writing to MSD. The public may determine the progress of authorized projects by reviewing these reports.

Additionally, MSD project specific information, such as status, scheduling and costs, is posted on the Reporting page of the MSD Project Groundwork website <http://projectgroundwork.org/projects/reporting.htm>. This public information includes Allowance Project Reports, Level 1 Quarterly Reports, Level 1 Annual Capital Reports, and Monthly Reports. The most up to date project data is provided in the Monthly Reports directory, which provides information in a variety of formats, including District-wide, by watershed, and according to its planning status, design status and construction status. The public may request copies of these reports be sent to them via email, and questions about any of the construction projects may be emailed to MSD.

**Comment #8:** “A condition of any approval must be submittal of a far better description of what the Lick Run valley conveyance system is intended to accomplish, its water quality, stream functioning and biological goals and why alternatives were selected. Any conditional approval of this system should [also] require a detailed description of the system’s ability to become an ecologically functioning stream.”

**Response:** The scope of the regulators' review and decision on the proposed Revised Original LMCPH under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPH “provides equal or greater control of CSO annual volume as the Original LMCPH and is completed by the Phase 1 End Date.” The proposed Revised Original LMCPH provides clear, enforceable, verifiable performance criteria requiring that the Revised Original LMCPH achieve the required control of CSO annual volume; as well as a thorough description of the measures that Defendants will be implementing to achieve the required control of CSO annual volume. Nothing more is required under the Global Consent Decree or the WWIP. To respond to the commenter, however, the regulators are providing additional description of the Revised Original LMCPH as follows.

The valley conveyance in the Lick Run/South Fairmont service area would function as a bioengineered stormwater conveyance. During and after storms rainwater would drain down the conveyance as an overland flow and discharge to Mill Creek. Detention basins in the service area would hold water during storms, and would be partially de-watered after storms have ended. This would mean there would be water in the conveyance a good part of the time. However, in periods of dry weather it is not expected that there would be water flowing through the valley conveyance. The conveyance would be planted with deep-rooted native plants and maintained to present a naturalized aesthetic and avoid the appearance of a dry creek bed. Although habitat function is not a requirement under the WWIP, it is expected that the valley conveyance would provide habitat for a number of species. For example many small bird and butterfly species would likely find the deep-rooted native plants to be suitable habitat in the spring, summer and fall. However, because the conveyance will not have water in it all the time it is not expected that the conveyance can provide habitat for aquatic species (fish and most aquatic macroinvertebrates).

Under the Revised Original LMCPH the proposed valley conveyance system would convey natural drainage and stormwater to Mill Creek. The stormwater flows into the valley conveyance would come from areas where the sewers have been separated, and would flow to the valley conveyance via above-ground drainage or storm sewers. At the upstream end there would be a forebay feature that would pretreat some stormwater before it gets into the valley conveyance. There will be multiple Vortechs units<sup>1</sup> that capture trash and grit and other materials that would enter the system from storm sewers. The purpose of the forebay and the Vortechs units would be to ensure that stormwater in the valley conveyance would be relatively clean and free of trash. Maintenance would be needed to clean out the forebay and Vortechs units and also to care for the plants in the bioengineered channel and floodway.

There is more or less a 3-tiered system envisioned in terms of the way flow volumes would be handled in the valley conveyance. The Vortechs units would function rather like splitter boxes.

<sup>1</sup> A Vortechs unit is a swirl-based stormwater treatment system manufactured by Contech Engineered Solutions LLC. <http://www.conteches.com/Products/Stormwater-Management/Treatment/Vortechs.aspx>



The first flows that come in, after being cleaned by the Vortechs unit, would be routed to the above-ground channel. Thus even in small storms there would be water flowing through the bioengineered channel. Where there are larger storms and higher flow amounts that would exceed a pre-established level for the above ground bioengineered channel the higher flow amounts would be routed to the box culvert. This conveyance would be constructed under the bioengineered channel and function in a manner similar to a relief storm sewer. The concept behind this design element is if stormwater flow volumes were too high, with too much energy and velocity, the stormwater would erode the bioengineered channel and severely damage the plants.

The third tier of the valley conveyance would be associated with very large storms, for example a once-in-50-years storm size. In such large storms stormwater flows would exceed the capacity of the vegetated channel and the box culvert. In these situations flows would extend out into the above-ground floodway adjacent to the vegetated channel. The floodway would be relatively wide and flat and planted with grass-type vegetation. The floodway would be sized such that it could hold the flows from the drainage area in a 100-year storm event. With this design some of the green space in the corridor could be used as open space and for recreational activities most of the time, but the greenspace would function as a floodway in the infrequent rain events when this capacity is needed.

**Comment #9:** “Any conditional approval of this system should require a description of how it will be designed and become a natural functioning stream, , how it will meet water quality standards, future monitoring (water quality, biota, etc) of Lick Run and its tributaries. . . . [it should also] include prior consultation with Ohio EPA’s 401 certification staff, Ohio Department of Natural Resources, Hamilton County Soil and Water and the Army Corps of Engineers . . . [and require that MSD] submit, for approval, Statements of Qualifications for all personnel and consultants working on this project.”

**Response:** MSD consulted with all of the entities referenced in the comment as they developed the proposed Revised Original LMCPR. As with all projects that MSD implements in accordance with the consent decrees, nothing in the consent decrees, the WWIP approved thereunder or in any other approvals under the decrees or WWIP constitutes a permit or otherwise excuses Defendants’ obligations to comply with all applicable local, state and federal laws. *See* Sections XXIV – XXVI of the Global Consent Decree. Thus, it is not necessary to include the conditions that the commenter has requested in approving the proposed Revised Original LMCPR. Instead, the scope of the regulators' review and decision on the proposed Revised Original LMCPR under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPR “provides equal or greater control of CSO annual volume as the Original LMCPR and is completed by the Phase 1 End Date.” As explained above in the response to Comment #3, Defendants’ proposal meets these criteria. Nothing in the consent decrees or in the WWIP approved under those decrees requires that the conditions requested by the commenter be included, as a condition of obtaining approval of a Revised Original LMCPR.

MSD has consulted with the U.S. Army Corps of Engineers on whether a permit would be needed for the valley conveyance. According to MSD, the Corps has indicated that one or more permits may be needed for construction of the outfall structure to the Mill Creek, but that a permit would not be necessary for the valley conveyance itself. According to MSD, the valley conveyance would be stormwater drainage feature and not a stream restoration or relocation.

MSD has also indicated that the State has indicated that its 401 certification decision-making process would follow the same rationale as that provided by the Corps. The regulators encourage the commenter to contact MSD, the Corps, Ohio's 401 certification staff, the Ohio Department of Natural Resources, and/or the Hamilton County Soil and Water Conservation District, if it seeks additional information about the extent to which federal, state or local requirements within those agencies' areas of expertise might or might not apply as Defendants implement the Revised Original LMCPR.

**Comment #10:** "As a condition of any approval, the gaps in compliance with the stormwater permit, and establishing best management practices including establish riparian buffers, detention to manage velocity, downspout removal, and water reuse must be addressed, ordinances passed, incentives established, etc. . . . [The approval also should require] a stormwater plan that assures that the stormwater pollutants are reduced to the maximum extent practicable and protect water quality . . . [and] water quality monitoring at various points [in] the stormwater system . . . so that MSD can demonstrate that the discharges and system will not cause or contribute to water quality violations. Any conditional approval must [also] include the full extent of stormwater pollution requirements and how they will be addressed (what limits in the permits, etc)."

**Response:** As noted above in response to Comment #9, nothing in the consent decree, the WWIP approved thereunder or in any other approvals under the decree or WWIP constitutes a permit or otherwise excuses Defendants' obligations to comply with all applicable local, state and federal laws. *See* Sections XXIV – XXVI of the Global Consent Decree. Thus, the regulators agree that Defendants must ensure that they comply with all local, state and federal stormwater-related requirements as they implement the Revised Original LMCPR, including any requirements included in any NPDES permit that Ohio EPA has issued or will issue in the future for MS4 stormwater discharges. These include any requirements to implement best management practices so that pollutants in stormwater discharges will be reduced to the maximum extent practicable. However, it is not necessary or appropriate to include conditions in their approval of the proposed Revised Original LMCPR addressing these stormwater requirements. Instead, the scope of the regulators' review and decision on the proposed Revised Original LMCPR under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPR "provides equal or greater control of CSO annual volume as the Original LMCPR and is completed by the Phase 1 End Date." As explained above in the response to Comment #3, Defendants' proposal meets these criteria. Nothing in the consent decrees or in the WWIP approved under those decrees requires that the conditions requested by the commenter be included, as a condition of obtaining approval of a Revised Original LMCPR.

It is important that structural and nonstructural BMPs will be implemented to manage the separated stormwater, to ensure that as CSO issues are being addressed that a different water quality concern is not being created. Stormwater control measures are included as part of the Revised Original LMCPR to help sustainably manage the separated stormwater. For example, there would be eight detention basins in the Lick Run sewersheds that would detain stormwater to help slow the release of water to the stormwater system and Mill Creek, and would help reduce the concentrations of sediment, nutrients, and other pollutants in the stormwater. The Vortechs units will also help to reduce pollutant loads in the stormwater. The Lick Run stormwater quality modeling and assessment work undertaken by MSD estimates that the stormwater management measures planned in the Lick Run/South Fairmont service area could

result in pollutant load reductions for total phosphorus (estimated 30% reduction), nitrogen-related nutrients (25% reduction), total suspended solids (61% reduction), and bacteria (59% reduction).

**Comment #11:** “As a condition of any approval, the expected overflow reductions from different parts of the project need to be identified.”

**Response:** Defendants have provided estimates of the expected overflow reductions from different parts of the project in the revised Attachment 1C that Defendants submitted to the regulators in a letter dated May 28, 2013 and this revised Attachment is included in the approved Revised Original LMCPR.

**Comment #12:** “As a condition of any approval, a green infrastructure plan needs to be identified along with its funding schedule and timeline. Incentives and mechanisms for addressing the long term viability of the green infrastructure projects such as Chicago’s 110% cushion, plan, zoning, ordinances, deed restrictions etc. should be included.”

**Response:** As noted in the response to comments offered by Gerry and Marvin Kraus, in laying out expectations for a possible Revised Original LMCPR the regulators had indicated to Defendants that the proposal should include provisions to ensure that alternative control measures are preserved and maintained over the long term, as they would be part of the CSO long term control program. In response, the Defendants focused the Revised Original LMCPR on control measures that can be implemented, operated, and maintained over the long-term by Defendants or a collaborating public partner. The Revised Original LMCPR does not include as part of the quantified CSO reduction program relatively smaller, de-centralized green infrastructure practices. However, it should be noted that the elements of the Revised Original LMCPR can accommodate complementary small, decentralized green infrastructure practices in the areas served by the LMCPR. It is possible that the Lower Mill Creek Final Remedy might include further green infrastructure implementation. The December 2012 Revised Original LMCPR document in fact states, “source control at a small scale offers additional flexibility to engage the private sector and other public partners through Enabled Impact Projects, which could provide a significant reduction opportunity for the Final Remedy.” To date, MSD’s Enabled Impact Program has successfully developed projects with approximately 30 public and private entities. In total the completed projects capture over 40 MG of stormwater annually from the combined system.

**Comment #13:** “As a condition of any approval, a comprehensive plan needs to be submitted [pertaining to the Kings Run component of the Revised Original LMCPR], the issue of dam safety/classification resolved[,] [and] [t]he plan should include stream restoration and green infrastructure, beyond just detention basins.”

**Response:** MSD determined, based on engineering analyses and using the updated hydrology and hydraulic model, that the most cost-effective approach for dealing with CSOs in these sewersheds is a combination of strategic sewer separation (to keep rain water out of the combined system), and wet weather storage. With strategic sewer separation and storage of wet weather flows, storage was found to be more cost effective than an EHRT. There would be a total of four detention basins capturing wet weather flows. Three of the detention basins would discharge back to the combined system, and flows would be delivered to the WWTP for

treatment after the rain event ends. The fourth detention basin would release flows to the stormwater conveyance system. In all cases the detention basins would be storing only runoff from streets and other areas; the ponds would not store combined flows. The Revised Original LMCPR does include a proposed detention basin near the base of the closed Gray Road Landfill. This landfill is capped and seeded, and stormwater running off this landfill would be expected to have characteristics similar to runoff from lawns. There is a large amount of stormwater that would drain off this capped landfill, and the detention basin would help keep the municipal sewers in the area from being overloaded. In addition to the four detention basins the plan for Kings Run calls for a 1.5 million gallon storage tank for combined flows. The combined sewage in the tanks would be released back to the combined system after a rain event ends, and the flows would be conveyed to the WWTP for treatment.

The regulators believe that Defendants have sufficiently identified and described the measures that will be implemented for the Kings Run portion of the proposed Revised Original LMCPR and so do not agree with the comment offered that further description is necessary. Moreover, the scope of the regulators' review and decision on the proposed Revised Original LMCPR under Paragraph A.2.a of the WWIP is limited to whether the proposed Revised Original LMCPR "provides equal or greater control of CSO annual volume as the Original LMCPR and is completed by the Phase 1 End Date." As explained above in the response to Comment #3, Defendants' proposal meets these criteria. Consequently, there is no basis for the regulators to also require that the Revised Original LMCPR also include additional "stream restoration and green infrastructure," as requested by the comments.

**Comment #14:** The commenter would like to see the West Fork project move forward.

**Response:** The commenter notes that some West Fork CSO control project components evaluated by Defendants in earlier planning documents were not included in the Revised Original LMCPR submitted to the regulators in December 2012. In determining the cost-effective combination of control measures planned for the LMCPR Defendants selected a combination of projects that would potentially be part of the interim remedy. Projects that were not included in the interim remedy could very well be part of the Lower Mill Creek Final Remedy. It may make good sense that the West Fork project components not included in Revised Original LMCPR would be part of the Final Remedy, as the regulators' review of these projects found them to be cost-effective and potentially valuable in terms of reducing CSOs and protecting water quality.

**Comment #15:** "As a condition of any approval, any decisions made by MSD to reduce the performance (including how 'natural' the conveyance is) of any aspect of the plan, due to cost, need to be documented, subject to public review and approved by USEPA."

**Response:** Upon approval of the Revised Original LMCPR, Defendants are required to implement it in accordance with the descriptions and design criteria set forth in Line 112 in Revised Attachment 1B to the WWIP (included as part of the Revised Original LMCPR), and the performance criterion in Attachment 1C (included as part of the Revised Original LMCPR). Defendants may not revise or deviate from the descriptions and design criteria set forth in Line 112 in Attachment 1B or the performance criterion in Attachment 1C without agreement from the regulators. In the event that Defendants do seek such agreement from the regulators, the regulators will ensure that the commenter is aware of the request and has an opportunity to

provide input to the regulators before the regulators make any decisions regarding any such request. The regulators do not anticipate that Defendants will be making any such requests.

**Comment #16:** “As a condition of any approval, the schedule for completion must not go beyond 2018[,] . . . intermediate and final deadlines need to be set [with] [v]erification that conditions have been met . . . to be signed off on by USEPA[,] . . . deadlines must be set [for] submission of detail design plans as they move through planning . . . [and] [a]dditional reporting requirements include[ing] biannual budget and actual costs and monitoring data [must be included].”

**Response:** The schedule for completion set forth in Revised Attachment 1A to the WWIP (included as part of the Revised Original LMCPR) does not go beyond 2018. That schedule includes the interim and final deadlines required by the Global Consent Decree: (a) an interim deadline of December 31, 2016, for Defendants to have submitted all Permits to Install that are necessary for implementing the Revised Original LMCPR to Ohio EPA; (b) an interim deadline of December 31, 2017, for Defendants to have started construction on all projects that are included in the Revised Original LMCPR; and (c) a final deadline of December 31, 2018, for Defendants to have substantially completed construction of all projects that are included in the Revised Original LMCPR. In accordance with Paragraph XV.A of the Global Consent Decree, Defendants are required to provide quarterly reports to the regulators providing thorough information on the status of Defendants implementation of all measures required by the decree, which includes information regarding the status of Defendants implementation of the Revised Original LMCPR. The regulators, therefore, do not agree that the conditions requested by the commenter need to be included in approving the Revised Original LMCPR.

**Comment #17:** “As a condition of any approval, an approvable, updated comprehensive plan needs to be submitted within 30 days. Any gaps, uncertainties and risks that MSD is aware of should be documented.”

**Response:** The proposed Revised Original LMCPR that Defendants submitted with a letter dated May 28, 2013, is approvable, with revised Attachments 1B and 1C to replace the Attachments 1B and 1C that had been attached to the WWIP as approved in 2010. Following completion of the Revised Original LMCPR, post-construction monitoring and modeling is required in accordance with Section X of the Global Consent Decree to evaluate and demonstrate that the performance criterion for the Revised Original LMCPR is met.