



Quality Management Plan

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Southeast Michigan Council
of Governments Quality
Assurance Manager

Kelly Karll, P.E.

Date

Southeast Michigan Council
of Governments Executive
Director

Amy O'Leary

Date

U.S. Environmental
Protection Agency Project
Officer

Erica Sheeran

Date

U.S. Environmental
Protection Agency Quality
Assurance Manager

Blake Spitz

Date

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1. Organization’s Quality Statement

The goal of this Quality Management Plan (QMP) is to ensure that all environmental information operations conducted by the Southeast Michigan Council of Governments (SEMCOG) in support of the Southeast Michigan Community Grant Program project adhere to adequate quality assurance (QA) procedures. Environmental information operations are defined as work to collect, produce, evaluate, or use environmental information and design, construct, operate, or apply environmental technology.

This plan defines SEMCOG's quality-related policies and procedures; criteria for application; areas of application; and roles, responsibilities, and authorities. Subrecipients will only be conducting stormwater calculations. All subrecipients will provide estimated runoff reduction calculations utilizing [SEMCOG’s Stormwater Planning Tool \(SPT\)](#) for both pre- and post- runoff conditions. Those calculations will be confirmed by SEMCOG's engineering consultant team as key component of the QA process.

As part of the Great Lakes Community Projects Grant Program, workplans for funded projects will be sent to EPA Region 5 to determine what QA is required. If QA doc(s) are needed, those will also be submitted to EPA Region 5 for review and approval prior to the start of work.

SEMCOG acknowledges the importance of quality in its environmental information operations to ensure the accuracy and reliability of data. Appropriate resources are allocated to each project to ensure commitment to quality management principles and practices. SEMCOG Project Managers (PMs) and Quality Assurance Managers (QAMs) are responsible for implementing the procedures outlined in this plan.

This QMP was prepared in accordance with the U.S. Environmental Protection Agency (USEPA)’s *Quality Management Plan Standard* (Directive No: CIO 2105-S-01.1), published in August 2023. SEMCOG will continually strive to evaluate and improve its QA efforts so that data meets the needs and expectations of users.

2. Organizational Chart

Figure 1 illustrates the organizational structure of this project, including the names, positions, and lines of authority and communication of SEMCOG staff. It also indicates the roles of those

involved in the project and the areas of the organization conducting environmental information operations. As shown in the chart, the QAM remains independent of environmental information operations conducted by the PM and other team members.

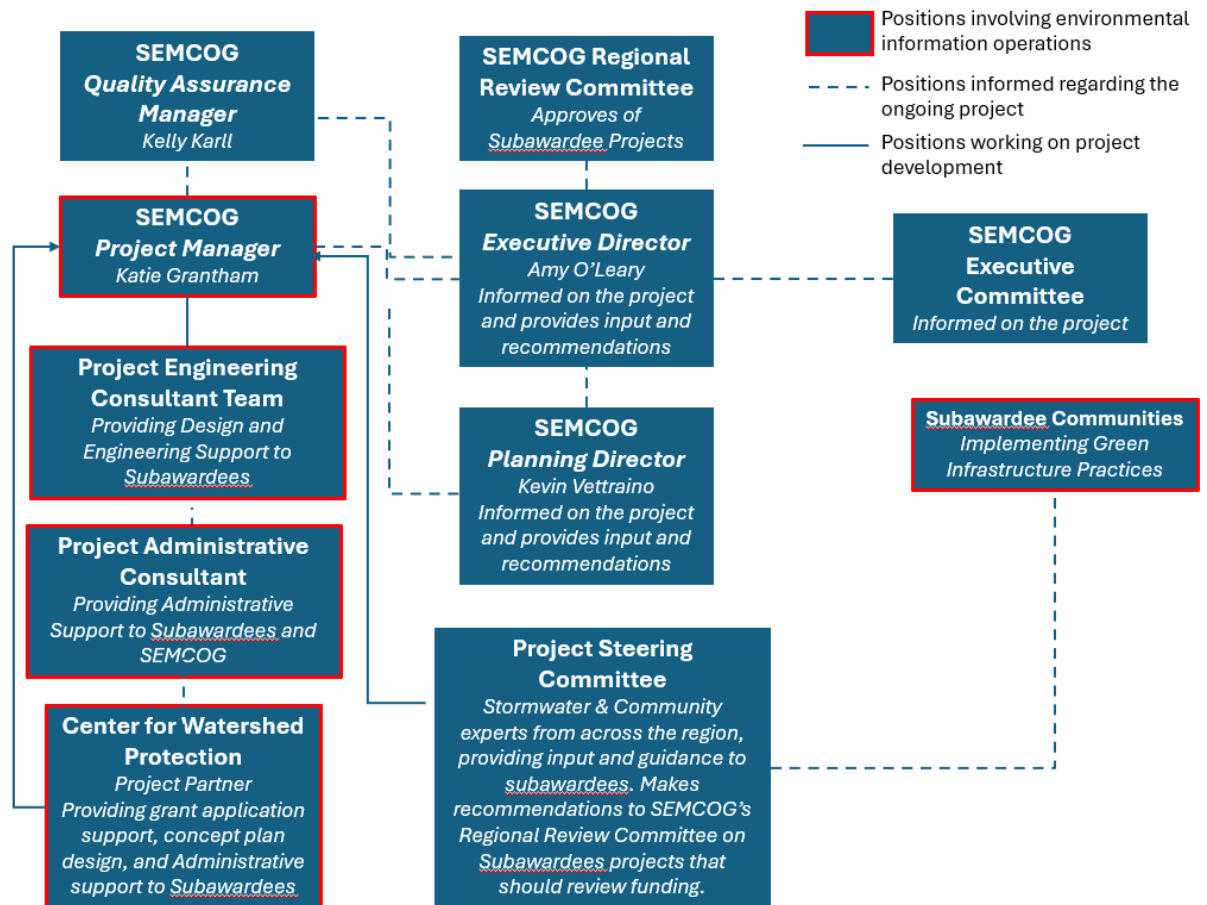


Figure 1. Project Organizational Chart

3. Roles, Responsibilities, and Authorities

The key personnel who are responsible for implementation of this QMP throughout this project are the SEMCOG PM, the SEMCOG QAM and the Project Grant Consultant, Drummond Carpenter. SEMCOG has contracted with other organizations for this project to provide general green infrastructure project assistance, provide assistance to applicants and subawardees, generate stormwater calculations that meet grant and EPA requirements, and create green infrastructure designs. Each final engineering design developed by each subawardee will be signed and sealed by a licensed Professional Engineer (PE) within the State of Michigan.

The SEMCOG PM provides senior-level oversight over the whole project. The PM is responsible for SEMCOG's technical and financial performance as well as maintaining communications with the EPA to ensure mutual understanding of grant requirements, EPA expectations, and conformity with EPA quality procedures; managing oversight and conduct of project activities on the contractors' sides, and allocation of SEMCOG resources to specific tasks; ensuring quality and consistency of technical work completed by contractors; ensuring that quality procedures are incorporated into all aspects of the project; developing, conducting, and/or overseeing QA plans as necessary; ensuring that any corrective actions are implemented; operating project activities within the documented and approved QMP; and ensuring that all products delivered to the EPA are of specified type, quantity, and quality.

The SEMCOG QAM is responsible for overall quality control (QC) for the project and reviews all deliverable products prior to their release. The QAM will review the stormwater calculations, provided by the contractors, to ensure they meet the grant and EPA requirements. Following initial review by the QAM, the Project Grant Consultant, Drummond Carpenter, will complete more detailed plan reviews in addition to stormwater calculation verification. The QAM and Project Grant Consultant will not be involved in any data collection, analyses, or other direct environmental information operations, and they have the authority to conduct independent oversight of SEMCOG's Quality Program. The QAM has access to discuss quality-related issues with the SEMCOG Executive Director, who oversees the QAM.

The Project Grant Consultant will oversee subrecipient compliance with relevant regulatory requirements and the General Terms and Conditions of EPA cooperative agreements, The consultant will ensure that subawardees meet federal reporting and oversight obligations, and will work with subawardees to identify technical assistance needs and how they will address those needs through additional training, programming, or other supportive resources.

The SEMCOG Executive Director has executive authority for the organization. They provide organizational leadership and oversight of major SEMCOG functions such as project development, operations, etc. They represent the organization to the public and are the primary liaison to the Executive Committee. They have authority over staff involved with environmental information operations and are responsible for developing organizational policies and procedures that ensure staff have the capacity to implement the QMP.

SEMCOG's Planning Director supervises all SEMCOG planning groups, including the Environmental and Infrastructure group, which houses the PM and the QAM. They will stay informed on the project and will provide guidance and support when needed.

The Project Steering Committee is responsible for making recommendations for project awards to SEMCOG's Regional Review Committee. The independent Steering Committee represents an

outside, impartial review to ensure a fair and equitable project selection process. Throughout the duration of the grant program, they will serve as an educational resource to subawardees.

The SEMCOG Regional Review Committee is responsible for making the final selection decision for all awards. This group is made up of a diversity of SEMCOG members from across the region.

The SEMCOG Executive Committee is subset of SEMCOG's General Assembly, and is the chief working committee and financial control body for SEMCOG. It proposes, discusses, and reviews regional studies and plans, and takes action on policies and legislative positions. The SEMCOG Executive Committee will be informed of project awards and progress throughout the duration of the grant program.

4. Technical Activities and Programs Supported by the QMP

This QMP applies to the SEMCOG project Southeast Michigan Community Grant Program. This project falls under the organization's Environment and Infrastructure program area. It is not anticipated that this project will include primary data collection. Existing data and tools provided by the EPA and other qualified sources (State of Michigan, Michigan Department of Transportation, SEMCOG, ESRI, etc.) will be used for project tasks.

This project will award funding to implement green infrastructure projects that specifically reduce stormwater runoff volume, improve stormwater quality, and help build and connect Southeast Michigan's green infrastructure network. Green infrastructure, in the context of this project, primarily refers to projects such as shoreline softening, bioretention, rain gardens, permeable pavement, wetland restoration, and riparian restoration. The subaward program will award between 12-15 projects to local agencies, including local communities, counties, and eligible not-for-profit organizations that have demonstrated capacity to implement projects on publicly owned property. The program will award a maximum of \$300,000 per award, with a range of funding from \$50,000 to \$300,000 depending on the community and the project.

Each subaward recipient will be required to submit a workplan to SEMCOG that will be submitted to the EPA upon review and approval by SEMCOG. Workplans will include the green infrastructure project design and an estimate of environmental benefits consistent with the Great Lakes Restoration Initiative Action Plan IV Measures of Progress (USEPA, 2025), including:

- 3.2.1. Estimated gallons (in millions) of untreated stormwater runoff captured or treated.
- 3.2.2. Miles of Great Lakes shoreline and riparian corridors restored or

- 4.1.1. Acres of coastal wetland, nearshore, and other habitats restored, protected, or enhanced

SEMCOG will require subaward recipients to utilize SEMCOG's Stormwater Planning Tool to generate estimates of stormwater runoff reductions. The Stormwater Planning Tool integrates the EPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) program into a Geographic Information Systems model. The model automates STEPL's processes, requiring little to no inputs besides clicking on the parcel, or drawing a GIS-based polygon. The Water Quality Tool uses land use/land cover and soil data specific to the Southeast Michigan region, whereas STEPL uses theoretical land use/land cover data, providing additional accuracy for water quality estimates. The model generates the same total loads as the STEPL down to the hundredth.

Estimates of linear feet of Great Lakes shoreline and riparian corridors restored and acres of coastal wetland, nearshore, and other habitats restored, protected, or enhanced will be generated during the design phase of the green infrastructure practices as a component of the practice. Projects designs shall incorporate good engineering principles and practices – a broad set of quality assurance, conservation, and safety activities, as well as techniques and approaches that are commonly accepted throughout the engineering profession – into all engineering activities. SEMCOG will require that final project designs are signed and sealed by a licensed Professional Engineer (PE) within the State of Michigan. The primary purpose of the PE seal or stamp is to certify the work of a professional engineer. When an engineer affixes their PE stamp to a document, it signifies that they have reviewed and taken responsibility for the engineering work detailed within. This stamp acts as a mark of quality and assurance, signifying that the engineer's work meets the required standards, regulations, and codes of practice. In Michigan, the use of the PE stamp is governed by specific legal requirements. The Michigan Department of Licensing and Regulatory Affairs oversees the licensing and regulation of engineers in the state. Engineers must comply with the regulations outlined in the Michigan Occupational Code Act of 1980 (2010) regarding the use of the PE stamp. To legally use the PE stamp in Michigan, engineers must meet certain eligibility requirements, including education and experience criteria, and must successfully pass the PE exam.

5. Conformance with Policies, Procedures, Standards, and Regulations

SEMCOG is subject to Quality Assurance requirements (2 CFR §1500.2) under its assistance agreement with EPA. This QMP was prepared in accordance with the USEPA's *Quality Management Plan Standard* (Directive No: CIO 2105-S-01.1), published March 20, 2024. Subrecipients will adhere to SEMCOG's QMP. All subrecipients using only the Stormwater

Planning Tool, or other accepted calculation methodology, to calculate environmental benefits of a project will not be required to develop a USEPA Quality Assurance Project Plan. Subrecipients will comply with SEMCOG's QM for this project. If a QAPP is required, subrecipients will follow USEPA's QAPP Standard or alternative quality documentation guidelines (2023).

6. Field Activities

Any field activities completed during the course of this project will be conducted by contractors of the subaward recipients, for the purpose of completing engineering designs of green infrastructure projects. Contractors will follow good engineering principles and practices during field activities as well as their internal fieldwork procedures to minimize the risk of safety and health hazards to staff while conducting fieldwork. Deliverables generated by contractors conducting field activities will be reviewed by SEMCOG as detailed in Section 3. If EPA determines that a QAPP is necessary for the funded subaward recipients, then field activities will comply with information included in the EPA approved QAPP.

7. Computer Hardware and Software

To ensure the information produced from or collected by computers meet applicable requirements and standards, SEMCOG will reference EPA's standards, including the current versions of:

- EPA CIO 2122-P-03.1 Enterprise Architecture IT Standards Procedure
 - o https://www.epa.gov/system/files/documents/2024-10/enterprise_architecture_information_technology_standards_procedure.pdf
- EPA CIO 2104.1 IT/IM Directive Policy Software Management and Piracy Policy
 - o https://www.epa.gov/system/files/documents/2022-12/software_management_and_piracy_policy.pdf
- EPA CIO 2104-P-01-0 Software Management and Piracy Procedure
 - o https://www.epa.gov/system/files/documents/2022-12/software_management_and_piracy_policy.pdf

8. Organizational Competence

SEMCOG personnel conducting environmental information operations must meet minimum requirements to ensure competency.

To ensure organizational competence, SEMCOG requires that personnel meet clearly defined minimum qualifications and demonstrate continued performance in their roles.

Minimum requirements for technical positions are outlined in formal job descriptions, including education, experience, and essential knowledge, skills, and abilities (KSAs). Hiring decisions are based on these criteria and may include technical assessments.

SEMCOG evaluates competency through its Performance Development Program, which includes annual reviews and ongoing feedback. This process assesses performance based on essential job duties, organizational core competencies, and annual goals.

Leadership regularly reviews position classifications to ensure accurate alignment between job responsibilities and staff qualifications. In addition, SEMCOG supports professional development through ongoing training and encourages staff to pursue relevant certifications and technical skill-building opportunities.

9. Personnel Training

Effective implementation of the QMP requires that training and outreach occur to ensure all personnel involved in the planning, management, and implementation of environmental information operations have the competencies to complete their tasks according to the procedures and processes in this QMP. All SEMCOG staff assigned to work on this project shall have appropriate technical and QA training to properly perform their assignments. SEMCOG will be responsible for documenting training.

SEMCOG is committed to ensuring staff are well-trained to carry out environmental information operations with competence and consistency. All new employees participate in orientations that include an overview of SEMCOG's mission and job-specific responsibilities. Ongoing training is provided to all staff on relevant topics. Training needs are identified through performance evaluations, supervisor feedback, evolving project demands, and periodic review of staff skills and qualifications.

Training is delivered through multiple formats: internal sessions led by qualified SEMCOG staff, attendance at industry conferences and workshops, online learning, and support for obtaining professional certifications. Training may also be tailored to specific roles or project assignments.

10. Procurement of Items and Services

SEMCOG's procurement processes are outlined in SEMCOG's Finance Management Manual included as Appendix A of this QMP. The procurement of services will be controlled and documented to ensure conformance with quality requirements. Additionally, subcontractors assigned to perform environmental information operations will comply with all quality

requirements as specified in Quality Assurance requirements (2 CFR §1500.2). SEMCOG's Finance Manager will review and approve procurements for SEMCOG.

Subaward recipients will be responsible for following their own internal procurement policies and practices. Additionally, if a subaward recipient has an existing contract with a municipal engineering firm, the subaward recipient may utilize that firm in this program provided the subaward recipient provides documentation demonstrating the procurement process used to select that firm.

SEMCOG's QAM will ensure that all contracts, assistance agreements, and other cooperative agreements are accurate, complete, and contain quality requirements that subrecipients must comply with the SEMCOG QMP. Agreements will document how suppliers are to address technical and quality requirements and the supplier's responsibility for the Quality Program requirements. Supplier conformance with quality requirements will be verified by the SEMCOG Project Manager (PM) throughout the duration of the contract. These quality requirements will be explicitly included in all consultant subcontract agreements. All agreements will be structured to comply with applicable federal grant requirements, including those outlined in 2 CFR §1500.2 and other relevant regulations. Responses to solicitations will be reviewed to ensure these documents satisfy all technical and quality requirements and provide evidence of the supplier's capability to satisfy the Quality Assurance requirements (2 CFR §1500.2) required by SEMCOG's assistance agreement with the EPA.

SEMCOG PM, QAM, finance manager, and grant administrator will ensure procured services are of acceptable quality and will review objective evidence of quality for applicable services furnished by suppliers and subcontractors, supplier audits, and examination of deliverables. Quality-related documentation from contractors will be reviewed by the SEMCOG QAM.

The SEMCOG QAM and EPA will review QMP and QAPP procedures and criteria for delegations of EPA authority and ensure that quality-related contracting requirements as defined by the Federal Acquisition Regulations are satisfied.

11. Document and Record Processes

Quality-related documents and records requiring management and control include this QMP, project designs including estimates of environmental benefits as described in section 4.

All project and data files will be stored on SEMCOG project servers. Files will be organized and maintained by SEMCOG PM in folders by project, task, and function, including a system of file labeling to ensure version control. SEMCOG has created a Microsoft Teams Channel, for file storage and project communications between SEMCOG, CWP, and the engineer consultants. Any

files containing confidential business information will be stored on secure computers. The SEMCOG PM will make sure that staff are trained and adhere to the project file organization and version control labeling. All files will be backed up each night to avoid loss of data. Data will be stored in various formats that correspond to the software being used.

SEMCOG will mainly correspond with subrecipients via email. Subrecipients will email progress reports to SEMCOG on a quarterly basis. These progress reports will be added to the Teams channel and SEMCOG servers for storage. Additional methods such as Teams or Dropbox may be utilized as needed for file transfer between SEMCOG and the subrecipients.

SEMCOG, CWP, and the engineering consultant team will be able to access the Teams channel, and work jointly on documents within the channel. Final documents will be saved on SEMCOG's servers. Records will be archived once the project is completed.

Quality-related documentation will be retained in accordance with SEMCOG's document retention policy, the specific terms and conditions of the applicable EPA assistance agreement, and relevant EPA Records Schedules (see: USEPA, 2022). Retention periods will be based on contractual and statutory requirements. In general, records will be maintained for a minimum of four years following the end of the Period of Performance (POP), unless otherwise specified. All documents will be stored and retained in alignment with SEMCOG's practices for managing records associated with federal grants, ensuring compliance with federal and agency-specific requirements.

All documents produced under this project will undergo internal QC review, as well as technical review and an editorial review, prior to submission to the EPA Project Officer (PO). QC will be performed by appropriate professionals with relevant expertise, such as planners, engineers, scientists, or economists, as appropriate. The technical reviewer will review the document for accuracy and integrity of the technical methodologies, analyses, and conclusions.

An editorial review of all final documents will be performed. Editors will verify clarity, spelling, and grammatical correctness, and ensure documents are free of typographical errors. Editors will verify that references are cited correctly. This will include a comparison against the original documents.

12. Plan, Do, Check, Act (PDCA) Quality Model

A. Plan

SEMCOG employs a systematic planning approach for environmental information operations.

The planning process is based on a common sense, graded approach to ensure that the level of

detail in planning is in accordance with the intended use and the degree of confidence needed in the quality of the results.

For this project, the planning process was led by the SEMCOG PM with input and support from the SEMCOG Executive Director and the SEMCOG Planning Director. The proposal was developed in response to the 2023 Request for Applications (RFA) by the Great Lakes Restoration Initiative for the Great Lakes Environmental Justice Grant Program (GLEJGP). The federal awarding agency is the U.S. Environmental Protection Agency, Great Lakes National Program Office. Proposal development included responding to the scope of work and requirements identified in the RFA and taking into account SEMCOG's past experience, knowledge on the subject, and approved procedures and technical protocols.

The goal of this project is to provide direct environmental and public health benefits through the implementation of green infrastructure in communities in Southeast Michigan. Project objectives include installing up to 15 green infrastructure projects that address nonpoint source runoff reduction and habitat restoration, achieving 5-11 million gallons of annual stormwater runoff reduction, an interactive web-based storymap detailing project outputs and outcomes, and an established collaborative network of community representatives to continue to build local capacity for future project opportunities. This project will address the issue that Southeast Michigan communities have experienced risks associated with environmental and stormwater-related challenges. Additionally, this project will lead to a larger Great Lakes watershed benefit, especially the Huron-to-Erie corridor in Southeast Michigan.

The project schedule and budget are shown below in tables.

Grant Timeline

Quarter 1: Jul 2024 – Sep 2024
 Quarter 2: Oct 2024 – Dec 2024
 Quarter 3: Jan 2025 – Mar 2025
 Quarter 4: Apr 2025 – Jun 2025
 Quarter 5: Jul 2025 – Sep 2025
 Quarter 6: Oct 2025 – Dec 2025
 Quarter 7: Jan 2026 – Mar 2026
 Quarter 8: Apr 2026 – Jun 2026
 Quarter 9: Jul 2026 – Sep 2026
 Quarter 10: Oct 2026 – Dec 2026
 Quarter 11: Jan 2027 – Mar 2027
 Quarter 12: Apr 2027 – Jun 2027

Quarter 13: Jul 2027 – Sep 2027
 Quarter 14: Oct 2027 – Dec 2027
 Quarter 15: Jan 2028 – Mar 2028
 Quarter 16: Apr 2028 – Jun 2028
 Quarter 17: Jul 2028 – Sep 2028
 Quarter 18: Oct 2028 – Dec 2028
 Quarter 19: Jan 2029 – Mar 2029
 Quarter 20: Apr 2029 – Jun 2029
 Quarter 21: Jul 2029 – Sep 2029
 Quarter 22: Oct 2029 – Dec 2029
 Quarter 23: Jan 2030 – Mar 2030
 Quarter 24: Apr 2030 – Jun 2030

Southeast Michigan Great Lakes Community Grant Program Updated Timeline (Jul 2024 - Jun 2030)	Q1 - Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24
Project Management & Coordination																				
Project Initiation																				
Project Kickoff Meeting																				
EPA Semi-Annual Reporting																				
Final Report Submission																				
Year 1 Tasks																				
Task 1. Steering Committee Development																				
Task 2. Consultant Procurement																				
Task 3. QAPP Development & EPA Review																				
Year 2 Tasks																				
Task 4. Grant Material Development																				
Task 4. Community Engagement & Grant Outreach																				
Task 5. Steering Committee Meeting & Project Criteria Selection																				
Task 6. Center for Watershed Protection Consultation																				
Task 7. Subaward Announcement & Call for Projects																				
Task 8. SEMCOG, Steering Committee, & EPA Application Review																				
Task 9. Regional Review Committee project approval & Subgrant Awards																				
Year 3-5 Tasks																				
Task 10. Subaward Grant Agreement Execution																				
Task 11. Project Consultation Assistance (CWP & Selected Consultant)																				
Task 12. Project Design & Section 106 Compliance																				
Task 13. Project Bid & Construction																				
Task 14. Project Training																				

Table 1: Key actions, milestones, and estimated completion dates by quarter of the grant.

Item	Federal Award
Personnel - Planner II, 2,180 hours - Manager, Environment & Infrastructure, 40 hours - Civil Engineer III, 100 hours - Planner I, 900 hours - Manager, Data Analysis, 40 hours - Accountant, 600 hours - Manager, Finance, 320 hours	\$158,919
Fringe benefits	\$119,189
Contractual - Consultant support	\$565,000
Other - Subawards to community partners	\$3,040,000
Other - Center for Watershed Protection, Coalition Partner	\$150,000
Other - Subawardee training and workshops	\$5,000
Travel	\$2,000
Indirect Costs	\$159,892
Total:	\$4,200,000

Table 2: Grant budget.

The information required for this project consists of estimates of environmental benefits consistent with the Great Lakes Restoration Initiative Action Plan IV Measures of Progress (USEPA, 2025), including:

- 3.2.1. Estimated gallons (in millions) of untreated stormwater runoff captured or treated.
- 3.2.2. Miles of Great Lakes shoreline and riparian corridors restored or
- 4.1.1. Acres of coastal wetland, nearshore, and other habitats restored, protected, or enhanced

This information will be used to support the project's objectives of addressing nonpoint source runoff reduction and habitat restoration, achieving 5-11 million gallons of annual stormwater runoff reduction, in communities in Southeast Michigan. SEMCOG will

compare these estimates of environmental benefits to project objectives to ensure project objectives are being met.

This information will be required of each green infrastructure project design funded by this project. To generate estimates of untreated stormwater runoff captured or treated, SEMCOG will require project designs to utilize SEMCOG's Stormwater Planning Tool that integrates the EPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) program into a web-based and mapping-based methodology. The model automates STEPL's processes by utilizing ArcGIS Model Building Software, requiring little to no inputs besides clicking on the parcel, or drawing a GIS-based polygon. The Stormwater Planning Tool uses land use/land cover and soil data specific to the Southeast Michigan region, whereas STEPL uses theoretical land use/land cover data, providing additional accuracy for water quality estimates. The model generates the same total loads as the STEPL down to the hundredth.

Estimates of miles of Great Lakes shoreline and riparian corridors restored and acres of coastal wetland, nearshore, and other habitats restored, protected, or enhanced will be generated during the design phase of the green infrastructure practices as a component of the practice. All information will be obtained during the project design phase and will be submitted as part of the final project design. The information collected for this project will be modeled estimates only.

B. Do (Implementation)

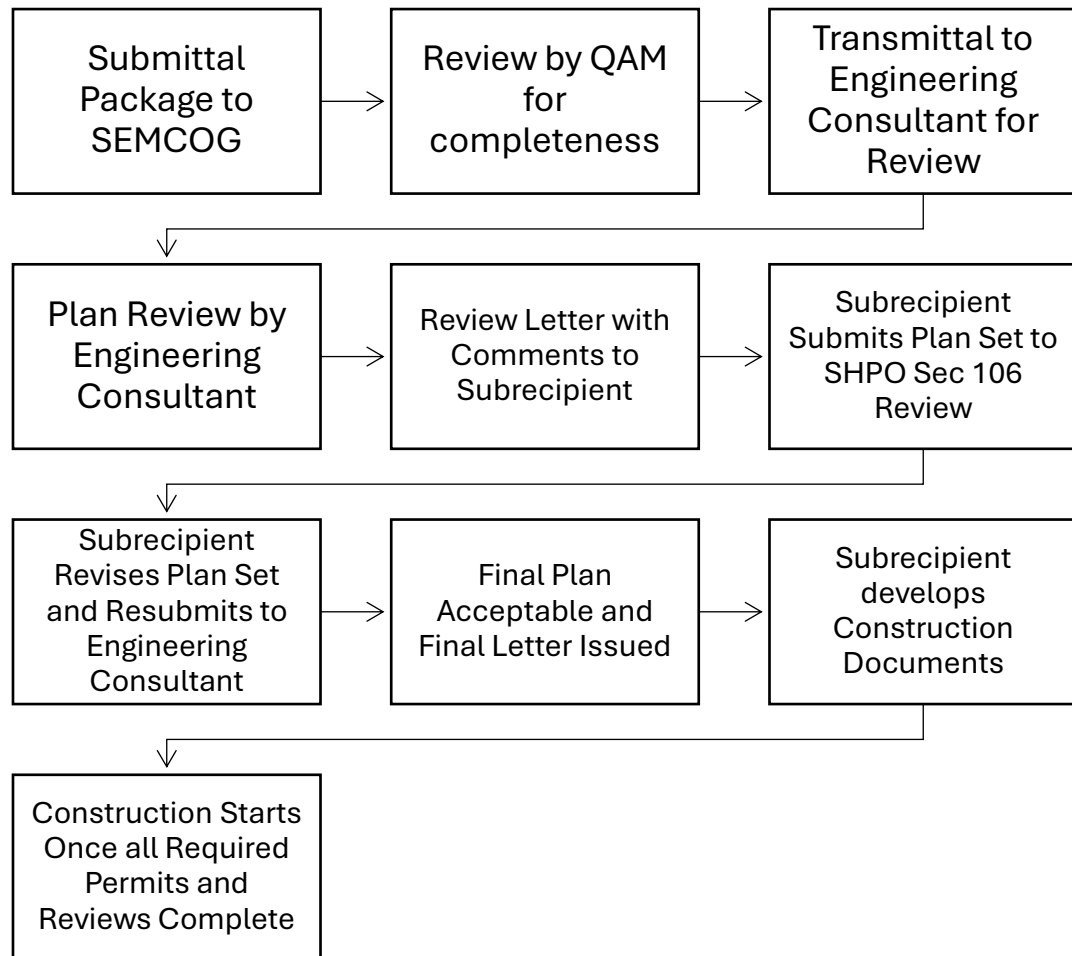
SEMCOG has procedures in place for the implementation of work processes to ensure environmental information is of known and documented quality, scientifically valid, legally defensible, and appropriate for its intended use.

Each subrecipient will be required to provide a Submittal Package for review that contains the following elements:

- Administrative / Submittal Package
 - Site Plan Sheets (plan, profiles, details)
 - Drainage area map and stormwater calculations
 - Erosion and sedimentation control details
 - Permit application (if required)
 - Narrative of stormwater concept, discharge points and design intent

- Stormwater calculations package
- O&M plan / table
- Submittal Package and plan set signed/sealed by a Professional Engineer licensed in the State of Michigan.

All subrecipient plans will be reviewed by the QAM and subsequently SEMCOG's engineering consultant (Drummond Carpenter) for consistency with the application and requirements of the subrecipient agreement. A flow chart of this process is below.



These procedures were developed by SEMCOG with support from outside organization(s)/experts and are consistent with procedures in use at similar organizations across the country. Appropriate SEMCOG staff/department review these procedures periodically to ensure they remain current with best practices and revise

them as necessary. The QAM and PM ensure work related to environmental information operations is performed according to approved SOPs and plans, such as this QMP. Proposed deviations in project scope, budget, or timeline are reviewed by the PM, and the process for approving changes is based on the terms and conditions of SEMCOG's assistance agreement with the EPA.

C. Check (Assessment and Oversight)

Under this project, SEMCOG will concurrently use existing quality management systems that SEMCOG has previously utilized for submissions to the EPA where task-level deliverables will be subjected to required, regular reviews (e.g., quarterly) to ensure that technical, financial, and schedule requirements of this project are consistent with the EPA PO's and QAM's expectations for handling and producing deliverables that reflect high-quality environmental data.

The QA process that will be followed will include periodic review of data files and draft deliverables. SEMCOG's engineering consultant will conduct regular oversight of project status of each subrecipient. The engineering consultant will act as a resource for the subrecipients during project design and construction. The essential steps of this process if problems are found will include:

1. Identify and define the problem.
2. Assign responsibility for investigating the problem.
3. Investigate and determine the cause of the problem.
4. Assign and accept responsibility for implementing appropriate corrective actions.
5. Establish the best corrective action and document and implement it.
6. Verify that the corrective action has eliminated the problem.

The SEMCOG PM will provide day-to-day oversight of this quality system. Periodic project file reviews will be carried out by the QAM, at least once per year to verify that required records, documentation, and technical review information are maintained in the files.

D. Act (Corrective Actions and Improvements)

The QAM will ensure that problems found during reviews referenced above are brought to the attention of the SEMCOG PM and corrected immediately. All non-conforming data

will be noted, and corrective measures to bring non-conforming data into conformance will be recorded.

The SEMCOG PM and QAM are responsible for determining if the quality system established for the project is appropriate and functioning in a manner that ensures the integrity of all work products. All technical staff have roles and will participate in the corrective action process. Corrective actions for errors found during QC checks will be determined by the SEMCOG PM and, if necessary, with direction from the QAM, as appropriate. The originator of the work will make the corrections and will note on the QC form that the errors were corrected. A reviewer or the SEMCOG PM, not involved in the creation of the work, will review the corrections to ensure the errors were corrected. Any problems noted during audits will be reviewed and corrected by the QAM and discussed with the SEMCOG OM as needed. Depending on the severity of the deficiency, the SEMCOG PM may consult the QAM and stop work until the cited deficiency is resolved. Deficiencies identified and their resolution will be documented in monthly project reports, as applicable. The QAM and SEMCOG PM will comply and respond to all internal and EPA audits on the project, as needed. The QAM will produce a report outlining any corrective actions taken.

13. Dispute Resolution Process

SEMCOG's dispute resolution process to address issues pertaining to technical projects, including quality issues, is as follows:

SEMCOG addresses technical and quality-related issues through a structured process. When a problem is identified – such as a non-conformance with quality procedures – it is reported to the Project Manager and Quality Assurance Manager. The Project Manager will address any difficulties or disputes related to the project. Minor issues may be resolved informally, while more serious problems require a formal corrective action plan, including root cause analysis and a plan for resolution.

If the issue involves a sub-recipient, SEMCOG follows the steps outlined in the subcontract agreement, including written notice, response from the sub-recipient, and meetings if needed. Unresolved issues may be escalated. The SEMCOG Project Manager will work through the dispute resolution process.

All actions and outcomes are documented and retained in accordance with proper recordkeeping practices and applicable federal grant requirements. The SEMCOG Project Managers will work with SEMCOG's finance team to ensure proper record keeping.

14. Continual Improvement

SEMCOG will work to continually improve its quality program by identifying issues and potential areas of improvement during the activities described in section 4. In addition, input from EPA, project contractors, and SEMCOG Members is used to make improvements. The Executive Director and QAM will review the QMP annually to confirm its suitability and evaluate effectiveness, and more frequently as needed to determine conformance with any new requirements. The QAM is responsible for implementing and evaluating the effectiveness of the quality improvement activities. As part of this process, input gathered through the above pathways will be reviewed and used to make improvements to the QMP. Input that pertains to a specific quality issue will be shared immediately and the QAM, PM, or staff responsible for that project area are responsible for determining what, if any, changes are necessary to address the concern. Monthly check-in meetings held for this project will be a time to discuss challenges and opportunities to improve quality management. The PM and the QAM will meet weekly to ensure the project is moving forward and that any opportunities for improvement are discussed at those times.

15. Data Review, Validation and Verification, and Data Usability Reporting

All work conducted under this project will be subject to technical review. Technical review will be conducted by the SEMCOG PM, QAM, and grant consultant (Drummond Carpenter). SEMCOG will require that final project designs are signed and sealed by a licensed professional engineer within the State of Michigan. Finally, SEMCOG's consultants will ensure project implementation by documenting project status throughout the life of the project and creating a portfolio of photo documentation (before, during, and after) of all subaward project sites.

Any potential issues identified through this review process will be evaluated and, if necessary, data will be corrected, and analysis will be revised as necessary, using corrected data. SEMCOG's QAM and engineering consultant (Drummond Carpenter) will ensure potential issues are identified and corrective action is taken. These corrections will be documented in project records. These measures of data quality will be used to judge whether the data are acceptable for their intended use.

16. References

- Michigan Occupational Code Act of 1980, 299 M.C.L. §§ 339.2001-339.2014 (2010). Retrieved from <https://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-299-of-1980.pdf>
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