2019 Water Quality Restoration Grants

for Nonpoint Source Pollution

New Jersey Department of Environmental Protection
Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

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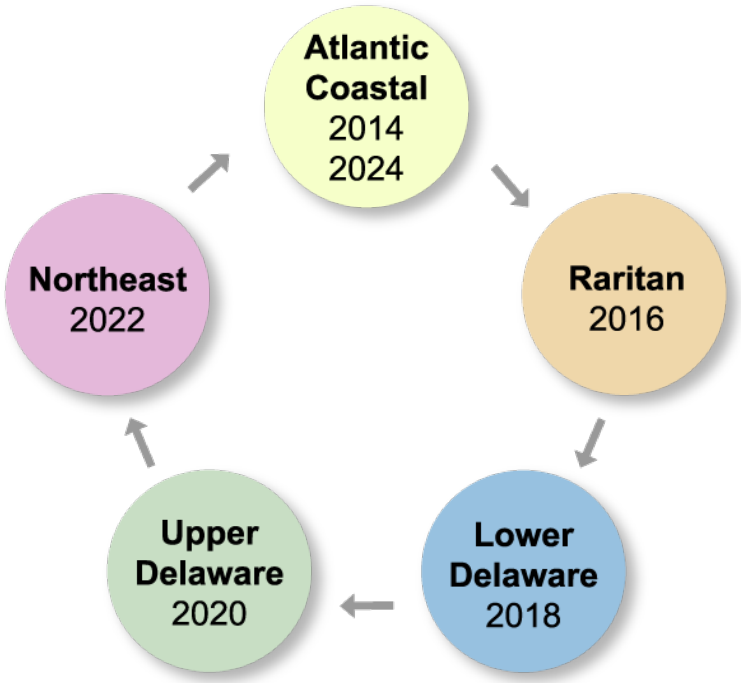
1. PROGRAM OVERVIEW

The Water Quality Restoration Grant Program is administered by the New Jersey Department of Environmental Protection's (Department) Bureau of Environmental Analysis, Restoration and Standards (BEARS) within the Division of Water Monitoring and Standards. The Water Quality Restoration Grant Program is part of the Statewide Nonpoint Source (NPS) Management Program, which highlights key actions that the Department and its partners use to control NPS pollution and restore water quality throughout New Jersey. NPS pollution is caused when contaminants deposited on the land surface are washed off and carried into nearby waterways by stormwater runoff or ground water. The U.S. Environmental Protection Agency (USEPA) has identified NPS pollution as the nation's largest water quality problem, causing impairment of approximately 40% of surveyed rivers, lakes, and estuaries in the Country (https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution).

The Department, in partnership with local and regional stakeholders, has invested significant resources in characterizing the causes and sources (both nonpoint and point source discharges) of water quality impairment in several priority watersheds and has found that reducing NPS pollution is key to meeting water quality objectives in those watersheds. The Department has also focused grant funds on addressing broader water quality issues, such as reducing or eliminating combined sewer overflows (CSOs) and improving resiliency to storm events like Superstorm Sandy, which are advanced by implementing pollution reduction strategies, including increasing infiltration, green infrastructure, living shorelines, and environmental education. The adoption and maintenance of the state's twelve areawide Water Quality Management (WQM) plans, which includes the development of wastewater management plans (WMPs), is a crucial component of the Department's water quality management efforts and is also a core area for grant funding.

As part of New Jersey's Integrated Report, the Department is now using a rotating basin approach for New Jersey's five water regions which produces a comprehensive assessment of the entire state every 10 years (see below figure). This approach supports development of measures to restore, maintain, and enhance water quality uses that maximize effectiveness and efficiency in achieving positive environmental outcomes that are tailored to the unique circumstances of each Region. The Department applied the enhanced assessment process in the Atlantic Coastal Region in 2014 cycle, the Raritan Water Region in the 2016 cycle, and is currently addressing the Delaware River Watershed in the 2018 and 2020 cycles as the targeted area for water quality restoration grants.

New Jersey's Water Regions Rotating Basin Approach



The State of New Jersey utilizes a variety of funds to restore, prevent, and/or mitigate NPS pollution. Funding sources include USEPA pass-through grants issued under Section 319(h) and 604(b)of the federal Clean Water Act (CWA) and other federal and State funds that may be available for NPS-related water quality restoration activities.

Through this 2019 Request for Proposals (RFP) the Department is making up to $3,500,000 in grants available for watershed restoration, enhancement, and protection strategies that address NPS pollution. Specifically, up to $1,000,000 of this funding is earmarked to mitigate Harmful Algal Blooms (HABs) through Lake and Watershed Planning and implementation projects that address NPS. NPS pollution carries nutrients into our waterways leading to over-enrichment and eutrophication. Elevated nutrients along with other suitable environmental conditions such as elevated temperatures lead to HABs which have been occurring with more frequency in New Jersey. This RFP sets forth the elements and requirements for projects based on federal award criteria and state environmental priorities; identifies specific administrative, procedural, and programmatic requirements for applicants; and provides timetables and deadlines for the grant application, project evaluation criteria, and related decision-making processes. This RFP directs funding to projects and new or existing programs that meet the goal of improving water quality through the prevention or reduction of NPS pollution. The Department has identified long term and short term NPS objectives for water quality assessment, monitoring, and restoration in the Performance Partnership Agreement with EPA (https://www.epa.gov/ocir/national-environmental-performance-

partnership-system-nepps##Per Par Agreements) and the New Jersey Nonpoint Source Management Program Plan, 2015-2019, (http://www.nj.gov/dep/wms/bears/docs/nps_plan_2015.pdf). These objectives include promoting stewardship to reduce NPS, funding NPS reduction projects that maximize the effective use of funds to achieve measurable water quality improvement and working with partners to leverage State resources to increase NPS available funding.

To demonstrate measurable water quality outcomes and to provide an update and explanation of the project status, grantees who receive funding through 319(h) grants must fulfill the USEPA Grant Reporting and Tracking System (GRTS) requirements and the USEPA pollutant load reduction estimates utilizing the USEPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) or other non-proprietary load reduction estimation model and include these load reductions in a "USEPA Success Story" style summary. Final reports must include a detailed summary of load reductions achieved by the project's implementation measures.

The Department is also making additional funding available in the form of low-interest and principal-forgiveness (grant-like) loans through the New Jersey Water Bank, administered by the NJDEP in partnership with New Jersey Water Infrastructure Bank **(**http://www.nj.gov/dep/dwq/mface_njeifp.htm). The Intended Use Plan (IUP) can be found at http://www.nj.gov/dep/dwq/cwpl.htm. The DEP will offer $10 million in principal forgiveness ~~grants~~ from the Clean Water State Revolving Fund Program for half of the cost (up to $2M) per project of infrastructure upgrades that reduce nutrient loading to waterbodies in an effort to reduce or eliminate HABs, including sewering and stormwater projects. The remaining project amount is financed 25% Department interest-free, and 25% NJ Infrastructure Bank market rate financing. The Department receives far more proposals than it can fund with available grants, therefore applicants whose proposals are not awarded grants, or not awarded grants for the full amount requested, are strongly encouraged to take advantage of the Water Bank low interest and principal forgiveness loans available for eligible projects**.**

In addition, to protect public and animal health, the recreational and potable uses of our waters, and our local economies, the New Jersey Department of Environmental Protection (DEP) is also issuing a Request for Proposals (RFP) to seek applications for grants of up to a total of $2,500,000 to eligible applicants to fund the implementation of innovative or proven methods to prevent, mitigate and/or control freshwater HABs within the State. The DEP may award individual grants of up to $500,000 per applicant. Upon award, Grantees will be required to provide a 33% match to any DEP funding received through further investment in projects to prevent, mitigate and/or control freshwater HABs within the State, resulting in a $3,325,000 investment in projects that will help avoid or mitigate HABs in the future. Information on this RFP is available at https://www.nj.gov/dep/grantandloanprograms/.

2. FUNDING FOR 2019 WATER QUALITY RESTORATION GRANTS

The Department is issuing this RFP to solicit applications for eligible projects for 2019 grant funding. Specifically, the Department is making up to $3,500,000 available in funding under this year's Section

319(h) and 604(b) CWA allotments, prior years Section 319(h) and 604(b) funding, and Corporate Business Tax (CBT) funds. Funding will be awarded as grants to eligible recipients to carry out targeted water quality restoration initiatives as outlined in this RFP.

A portion of the funds are provided under Section 319(h) of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. §§ 1251 *et seq.*, commonly referred to as the Federal Clean Water Act or CWA). Under the federal guidelines, each state may pass through a portion of 319(h) funds to applicants to reduce water quality impairment through implementation of NPS pollution control projects**.** In addition, each year the State of New Jersey receives funds from EPA under Section 604(b) of the federal Clean Water Act to carry out water quality management planning activities required under the Clean Water Act Sections 205(j) and 303(e). The CWA in general requires that at least 40% of the States funds awarded under Section 604(b) be allocated as pass through grants to regional public comprehensive planning organizations or interstate organizations.

3. FOCUS OF 2019 WATER QUALITY RESTORATION GRANTS

The focus of the 2019 grant funding opportunities includes specific watershed management area and statewide initiatives. Funding made available through this RFP will support water quality/watershed planning (including HABs/lakes), implementation of water quality improvement measures associated with approved Watershed Plans and total maximum daily loads (TMDL's), development of wastewater management plans and /or their components, implementation of green infrastructure to reduce stormwater input into combined sewer systems, and implementation of measures to provide resiliency against future storm events and sea level rise due to climate change. Specific funding priorities are listed in Section 4 below. All priorities will be considered equally, however $1M has been set aside to mitigate HABs through Lake and Watershed Planning and implementation projects that address NPS.

4. REQUEST FOR PROPOSALS FUNDING PRIORITIES

The Department's water quality restoration grant opportunities are detailed below. Project schedules from start to finish should be no more than three (3) years although in some cases, depending on when the grant funds expire the project schedule may need to be shorter (see project scope duration in Table below).

a. Development of Watershed Plans including updates to existing approved plans in the Upper and Lower Delaware River Watershed Management Areas (see Appendix G for Watershed Plan requirements and guidance);

b. Development of Lake Protection Plans and/or Watershed Plans including updates to existing approved plans Statewide to address nutrient inputs which contribute to HABs (see Appendix G for Watershed Plan requirements and guidance);

c. Implementation of approved Watershed Plans addressing current designated use Impairments and TMDL allocations (including Phosphorus impairments related to HABs) within the Upper and Lower Delaware River Watershed Management Areas;

d. Development of wastewater management plans (WMPs), both full WMPs and specific analysis and/or plan components. Examples of WMP components which will be considered for funding include: wastewater service area delineation map, sewer service area wastewater facilities capacity and build-out analysis, non-sewer service are nitrate dilution analysis, strategies for addressing potential deficiencies identified in the wastewater capacity and nitrate dilution analyses, and septic management program.

e. Green Infrastructure Projects in Environmental Justice Communities. Green infrastructure projects (green practices such as green roofs, blue roofs, rain gardens, porous pavement, and other activities that maintain and restore natural hydrology by infiltrating, evapotranspiring, and harvesting stormwater) designed to reduce stormwater runoff. Priority will be given within drainage areas hydraulically connected to systems with combined sewers (CSOs); and,

f. Projects that promote climate change resiliency including implementation of green infrastructure and living shoreline projects that provide and promote resiliency against future storm events, address sea level rise.

Planning Type	Funding Source	Total Funding Available (up to)	Project Scope Duration
Planning • Development of Watershed Plans including updates to existing approved plans in the Upper and Lower Delaware River Watershed Management Areas; • Development of Lake Protection Plans and/or Watershed Plans including updates to existing approved plans Statewide to address nutrient inputs which contribute to HABs; and • Development of wastewater management plans (WMPs), both full WMPs and specific analysis and/or plan components.	604(b), CBT	$250,000 $250,000 $500,000	2 years 3 years 4 years
Implementation • Implementation of approved Watershed Plans addressing Impairments and TMDL allocations (including Phosphorus impairments related to HABs) within the Upper and Lower Delaware River Watershed Management Areas;	319(h)	$1,900,000	3-5 years
• Green Infrastructure Projects in Environmental Justice Communities	319(h), CBT	$300,000	3-5 years
• Projects that promote climate change resiliency	319(h), CBT	$300,000	3-5 years
Total Available Grant Funding		$3,500,000	

5. SUBMISSION OF PROPOSALS AND PUBLIC INFORMATION SESSIONS

PROPOSAL MUST BE SUBMITTED BY: February 10, 2020

THIS YEAR PROPOSALS FOR WATER QUALITY RESTORATION GRANTS MUST BE SUBMITTED ELECTRONICALLY USING NJDEP's SYSTEM FOR ADMINISTERING GRANTS ELECTRONICALLY (SAGE). Applicants must first register via NJDEP SAGE at https://njdepsage.intelligrants.com Information on how to register and use NJDEP SAGE will provided at the public information sessions listed in Table 1 below.

NJDEP SAGE registered users can submit grant applications, monitor applications under consideration, as well as request changes and manage grants via the NJDEP SAGE system. All submissions must include complete grant proposal application forms and all supporting documentation. Please see Appendix A for information on how to submit a proposal via NJDEP SAGE.

The Department has scheduled two public information sessions. Questions on SAGE, the water quality restoration grant opportunities and/or the grant application process will be addressed during those sessions.

Table 1: Public Information Session*

Location	Date and Time
The Pequest Trout Hatchery and Natural Resource Education Center, 605 Pequest Rd, Oxford, NJ 07863	January 9, 2020, 1-4 pm
DEP Building – Public Hearing Room, 401 East State St., Trenton, NJ 08625	January 15, 2020, 1-4 pm

*If state offices are closed, the public information session will be canceled. Any other change or cancelation will be posted at www.nj.gov/dep/wms/bears/npsrestgrants.html

6. REQUIREMENTS FOR APPLICANT ELIGIBILITY

Applicants eligible to apply for funding under this RFP (Eligible Applicants) shall be limited to:

- State, regional and local government units or entities entirely within New Jersey, including municipal planning departments or boards, health departments; County planning departments or boards, health departments;
- Designated water quality management planning agencies;
- State government agencies, universities and colleges;
- Interstate agencies of which New Jersey is a member; and
- Watershed and water resource associations and other local nonprofit organizations recognized by the Internal Revenue Service under Section 501(c)(3) of the Internal Revenue Code.

Eligible Applicants shall, in their application, demonstrate they possess:

- Sufficient staffing and other resources with the capability, expertise, and environmental experience to perform the proposed project directly or thru contracting services;
- The ability to establish and maintain partnerships to ensure project implementation as well as long-term operation and maintenance/ management;
- Authority to implement the proposed project(s) and property or other access rights to construct the project (Applicant shall provide documentation that the applicant possesses or will obtain the property or access rights necessary to conduct the project); and
- Although a match is not required for projects to be funded, monetary matches and in-kind services increase a project's scoring (see Appendix B, Project Evaluation Criteria), thereby, increasing the chances of the proposal being selected for an award. This type of support demonstrates a long-term commitment to overall project success. The percentage of matching funds to be supplied by the applicant will also be a factor.

In addition to meeting the specifics of the grant opportunities described in Section 4 above, eligible projects must be:

- Well-designed to achieve the project goal of NPS pollution reduction and presented in the proper sequence of events (goal/objective/task);
- Consistent with existing local, state, and federal requirements and can obtain permits needed to implement the project;
- Viable and readily implementable (shovel ready);
- For proposals that do not include construction (*e.g.* planning, outreach and education), the proposal must include deliverables such as schedules, reports, training/outreach products, and inventories;
- Able to be completed in a 3-year timeframe; and
- Located on public property or on private property with an executed agreement with the property owner. The applicant shall provide documentation that the applicant possesses or will obtain the property or access rights necessary to conduct the project.

Water Quality Restoration grant funds may not be used for any of the following purposes:

- Projects that do not control the input of NPS pollutants either through the construction of a Best Management Practice or through education that changes behavior or promotes stewardship;
- Purchase of land or major capital improvements;
- Purchase of promotional items, such as key chains, mugs, flying discs, etc.;
- Department permit fees;
- Maintenance activities such as street sweeping and catch-basin cleaning;
- Projects which address symptoms rather than causes or sources of NPS pollution (*e.g.* weed harvesting without BMPs to control nutrient inputs);

- Projects that are not related to stormwater discharges or NPS pollution;
- Dredging of lakes or ponds, except when dredging is needed to remove sediment after all causes or sources of NPS pollution have been addressed; and
- For 319(h) grants only, the implementation of any permit or permit application requirements of federal, state, or local agencies, including the implementation of activities required by the NJPDES regulations (*e.g.* municipal stormwater permit requirements) or the performance of any other ineligible activities based on current USEPA guidelines https://www.epa.gov/nps/319-grant-current-guidance.

7. SELECTION OF PROJECTS

To be considered for funding, a proposal must be complete and timely in accordance with Sections 1 and 5, address the funding priorities of Section 3, meet the eligibility requirements of Sections 4 and 6, and adhere to the format and contain the components identified in Section 8.

DEP may award grant funds to Eligible Applicants for Eligible Projects that it deems, in its sole discretion, to be most beneficial to the state per the criteria herein. The DEP reserves the right not to award a grant if, at its sole discretion, no acceptable proposal is received, funding is no longer available or for any other reason. All applicants will be notified in writing with the DEP's grant award decisions in approximately sixty (60) days through NJDEP SAGE.

The funding amounts for each grant opportunity above approximations. The Department may transfer funds from one grant opportunity to another if the Department does not receive sufficient applications, if the Department needs additional funding for certain projects, or has not used the funding allocated to each grant opportunity. The Department will try to maximize the number of grant awards with respect to the number of applicants, number of eligible proposals, funding amounts requested, and final rankings.

The Department will conduct a preliminary review of all applications and will reject any ineligible or incomplete proposals. Applications compliant with specifications within this RFP will be reviewed, grouped by project or proposal type, and ranked by an evaluation team comprised of Department staff, in accordance with the Project Evaluation Criteria contained in Appendix B. In some cases, the Department may ask applicants to make minor adjustments to a project proposal to improve its understanding of the project proposal or to correct an error in the submittal.

Once applicants have been notified of the Department's intent to fund a specific project, they will be required to complete all grant agreement forms in NJDEP SAGE.

The following table contains information on the schedule for the proposal submission, funding, and completion of grant agreements**.**

Table 2: : Grant Processing Schedule

Action	Respinsiblity	Deadline
Full Proposal Submission	Applicant	5pm, EDT, February 10, 2020
Funding Recommendations and Notifications	DEP	On or about November 13, 2020
Completion of Contract Execution Forms	Applicant	30 days from notification

PROJECT AWARD – FORM OF AGREEMENT

By acceptance of funding awarded under this RFP, any Grantee agrees to be bound by and execute the grant agreement without modification. Completion of the project and expenditure of grant funds shall be in accordance with the terms set forth therein, and the same are, as applicable, incorporated by reference into this RFP. The grant award date shall be start date on the executed contract. Any work performed in accordance with the submitted scope of work and budget shall be eligible for reimbursement upon the final execution of the contract. Any work performed outside of the tasks enumerated in the submitted scope of work and budget shall not be reimbursable.

8. REQUIRED ELEMENTS FOR A COMPLETE PROPOSAL

The project proposal must include a detailed description of the project implementation strategy, milestones, outputs and schedule, the environmental benefit that will be achieved by the project, and how effectiveness will be measured including a description of the expected measurable environmental results (e.g. miles of stream restored, pounds of sediment reduced). Water quality monitoring will be funded only to fill information/data gaps or for specific assessment of project success and will follow Department approved sampling protocols.

Any documents such as reports, reference photos, maps, and data should be added as supplemental information. For more information and details, see Appendix A.

Project Background Summary Information

The project background must include a brief abstract of the project that includes a summary of, the major elements of the project, the objectives to be achieved, and the spatial extent of the work.

In addition, the project background should describe why the applicant believes the proposed project is needed, the scope of the problem, and/or current condition of the targeted water body. Please identify the NPS pollution stressors/sources that cause or contribute to the environmental condition that will be addressed and the source used to determine the condition, such as the latest Integrated Report (http://www.nj.gov/dep/wms/bears/assessment.htm), an approved TMDL (http://www.nj.gov/dep/dwq/msrp-tmdl-rh.htm), or an approved Watershed Based Plan (http://www.nj.gov/dep/wms/bears/npsrestgrants.html).

Explain how and to what degree implementing this project will address the root cause stressors/sources of the problem and define the desired result that this project will seek to achieve.

Project Description

The project description shall detail the goals, objectives, and tasks of the project.

Goals should be clearly presented for each type of implementation project. The goal statement(s) must identify the desired outcome(s) related to the identified problem or need and be stated in terms of results to be accomplished.

Objectives describe the outcomes in a measurable way, specify the results to be achieved or criteria by which results will be measured (e.g., 25% reduction in phosphorous loading to the Muddy River), and the timeframe for achieving the objective.

Tasks are concise statements of activities that need to take place to achieve the stated objectives. Tasks should:

- Describe the specific action that will be taken to achieve the project goals and objectives;
- Have a designated responsible party; and
- Have a specified timeframe to accomplish the action.

Applicant Description

A description of the applicant and the applicant's ability to complete the project must be included. Indicate whether this applicant or any partners have received previous CWA section 319(h), corporate business tax (CBT) funded grants, matching funds, and/or additional grants or Water Bank funds. If so, include all grant contract date(s), project title(s), expiration date(s), and grant identification number(s) as an appendix.

Monitoring and Evaluation Information

All proposals must include a description of how attainment of project objectives will be measured and/or demonstrated. The means to demonstrate attainment must be appropriate to the project type and environmental outcome expected. Describe the evaluation techniques and targets and why those approaches are an appropriate measure of success. Examples include improving trends in a related biological indicator/index, improving trends in water quality, a delisting of the affected waterbody/assessment unit, or a calculated evidence of pollutant load reductions using predictive models such as the USEPA Spreadsheet Tool for Estimating Pollutant Load (STEPL) or the Unit Area Load method (UAL) established in Chapters 3 and 4 of the Department's Best Management Practices (BMP) Manual http://www.njstormwater.org/bmp_manual2.htm.

If monitoring for biological, chemical, habitat, and/or physical monitoring the applicant should include information on sampling procedure, monitoring parameters, locations of sampling sites, frequency of collection, data usage, data format, and costs. The Department maintains a comprehensive ambient monitoring program that is used to make determinations regarding water quality impairments. Improving trends in water quality and/or indicators are most appropriately determined using the Department's network, and not through a separate ambient monitoring design. Water quality

monitoring will be funded only to fill information/data gaps or for specific assessment of project success and follow Department approved sampling protocols.

If water quality monitoring is proposed as the means to demonstrate effectiveness, the Department must approve this proposal. For such projects, a quality assurance project plan (QAPP) will be required to be developed and approved by the Department prior to project initiation. Refer to Appendix C and EPA's website: http://www.epa.gov/quality/ for QAPP requirements.

All applicants who receive funding, with limited exceptions, must fulfill the USEPA Grant Reporting and Tracking System (GRTS) requirements and conform to the USEPA STEPL or NJDEP's BMP Manual requirements to determine load reductions (Appendix E). The STEPL model and documentation may be found at http://it.tetratech-ffx.com/steplweb/. Time for performing this required element must be factored into the schedule and budget.

Implementation Schedule and Budget

Proposals shall contain a task schedule that lists outputs or deliverables associated with each task, the party responsible for the tasks, the time duration associated with completing each task for the total length of the project, and the budget for each task. Project schedules from start to finish should be no more than three (3) years unless notified of a shorter project duration in the award letter. Please note that funding of projects and/or extension of projects beyond three (3) years will only be made in extenuating circumstances related to factors beyond the control of the applicant. The inability of the applicant to complete the project in a timely manner is not an extenuating circumstance. The schedule should include sufficient time for: administrative start-up, monitoring [including QAPP development and approval, if monitoring is found to be appropriate (see Section 10), considering seasonal or flow conditions that may be important to the sampling design], all required paperwork and legal review, permit acquisition if needed, project completion and evaluation of the outcome, and preparation and submission of the final report.

Budget Details

- Personnel Costs (Salaries and Benefits) Note: if students will be performing work, tuition is not eligible for funding;
- Consultants and Subcontractors;
- Travel, at the state allotted 0.35 cents per mile;
- Administration (workshops, printing, postage, etc.) Note: may not exceed 10% of the amount requested;
- Construction (for example, to implement a BMP, http://www.njstormwater.org/bmp_manual2.htm);
- Equipment (list must be provided). Note: Equipment acquired with grant funds must be surrendered to the Department at the completion of the project, prior to or with the submission of the Final Report, as described in Appendix E;
- Match and additional funding provided by other sources;
- Audit; and
- Indirect Costs.

Supplemental Information

The following supporting documentation is required to be submitted in attachments to the project proposal:

- Letter(s) of Resource Commitment

Any party committing resources to the project must submit a letter of resource commitment and is then considered a project partner. The letter, submitted with the project proposal, must describe the partner's commitment to the project (e.g. time, money, and/or effort) or it will not be considered as a letter of resource commitment. In-kind services may be used as match and demonstrates the applicants and/or partner's commitment to carrying out the project in a timely manner. Letters of resource commitment must be included with the original proposal to ensure consideration of the proposal.

Letters of resource commitment from county and local governmental agencies must be signed by person(s) with the financial authority to commit time, money, and/or effort to the project.

A letter of resource commitment must be provided from the landowner of the site of an implementation project if the landowner is a party other than the applicant. A formal resolution or written consent from the landowner agreeing to execution of the project on their property will be required before any contract is executed with the State.

- Dated USGS topographic map with project area delineated;
- Dated Lot and Block tax map with project area delineated (including property ownership);
- Sketch/site plan or dated large-scale map showing project area in detail, as well as any regulated features such as flood hazard areas, riparian buffers, wetlands, etc., that would be impacted by any proposed construction;
- Photos of the site; and
- List of required local and state permits expected to be needed for project implementation.

Other Elements of a Proposal

Completion of a Project

Projects must be completed within the grant period, including the Final Report (see Appendix E). Expenditures by the grantee outside the grant period may not be eligible for reimbursement. If the project cannot be implemented or the project was completed for less than the grant award, resulting unexpended funds will remain with the Department. The Department will make any unexpended 319(h) funds from prior years available to applicants in future RFPs, see http://www.epa.gov/sites/production/files/2015-09/documents/319streamlining.pdf.

Ownership/Proprietary Rights; Data and Geographical Information System (GIS) Requirements

All information generated during each Water Quality Restoration project, or materials purchased through Water Quality Restoration funds, must be provided to the Department in an electronically pre-determined standardized format at the conclusion of the project, please refer to Appendix E. This includes all data collection related to sites and results, maps generated, photos, and all equipment (such as computers and GPS units) purchased with these grant funds.

Where applicable, the Department may require entry of the data into a web-based system or spreadsheet. All projects involving activities using a GIS data or mapping component must follow the Department's 2013 Mapping and Digital Data Standards http://www.nj.gov/dep/gis/assets/NJDEP_GIS_Spatial_Data_Standards_2013.pdf.

Coordination of Project Permitting

For implementation projects funded through this RFP, all grantees must coordinate all permit pre-application meetings, applications, and application meetings with the Department's Division of Water Monitoring and Standards. The Division of Water Monitoring and Standards should be listed as a co-applicant for any Department permit sought.

Maintenance Agreement

In order to ensure the success of any implementation project funded by a NPS grant, a Maintenance Agreement must be submitted to the Department prior to in-the-ground installation of any Best Management Practices. The agreement must identify the applicant or applicants responsible for maintenance, describe timetables by which these functions will be carried out, and detail tasks performed to ensure the continuing functionality of the implementation project. See Appendix F for more information.

9. REPORTING REQUIREMENTS FOR PROJECTS SELECTED FOR FUNDING

Quarterly Progress and Financial Reports

Progress and financial reports are required to be submitted to the Department on a quarterly basis to provide an update and explanation of the project status. These reports are vital to the success of the project and must be submitted complete and on time for payments to be made under the grant agreement. Failure to submit timely and complete reports may result in non-payment. The reports will be submitted via NJDEP SAGE and must follow the format found in Appendix D.

All interim work products, deliverables, as well as the Quarterly Financial Reports with documentation (e.g. receipts, vouchers, etc.) are required to be submitted with the appropriate Quarterly Progress Report.

Grants Reporting and Tracking System (GRTS)

All water quality restoration grantees (with the exception noted below) must fulfill the USEPA Grant Reporting and Tracking System (GRTS) requirements; the grantee's timely and accurate reporting on a quarterly basis is essential. GRTS provides USEPA management with an electronic means of accessing information on the use and leveraging of Section 319(h) funds by state agencies. States input data into GRTS in an on-going manner. The information extracted from GRTS is used to respond to congressional and other inquiries; support the USEPA's nonpoint source budget request; and provide a feedback loop on states' compliance with USEPA guidance and policy. GRTS also provides USEPA and other stakeholders greater and more efficient access to data, information, and program accomplishments than would otherwise be available. States are responsible for the validity of the data. States are required to submit reports on grant funded activities on either a semi-annual or annual basis, depending upon the particular region. Grantees preparing wastewater management plans and/or their components are not required to report in GRTS as these projects supporting planning initiatives which although promote water quality improvement are not associated with measurable load reductions.

Spreadsheet Tool for Estimating Pollutant Loads

As stated in Section 8, as a condition of the grant award, all grantees must fulfill the USEPA pollutant load reduction estimates utilizing the USEPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) or other non-proprietary load reduction estimation model, such as the Unit Area Load method established in Chapters 3 and 4 of the Departments Best Management Practices Manual http://www.njstormwater.org/bmp_manual2.htm, and include these load reductions in a "USEPA success story" style summary. This information must be provided within the quarter of completion for each implementation measure. Use of models other than STEPL must be approved by the Water Quality Restoration Program. All Final Reports must include a detailed summary of load reductions achieved by individual implementation measures supported through a grant contract.

Water Quality Data

All monitoring measurements, or data generation must have a quality assurance project plan (QAPP) approved by the Department before any monitoring, measurements, or data generation is initiated. If the grantee generates data without a Department-approved QAPP, the costs for producing that data will not be eligible for funding.

All data collected through the course of the project must be submitted in the format requested by the Department. All data must be entered into the Department's Water Quality Data Exchange online database or other database as approved by the Department. Information regarding the use of the Department's Water Quality Data Exchange online database is located at: http://www.nj.gov/dep/wms/data_submittal_wqde.html.

Final Reports

The Final Report must be submitted via NJDEP SAGE upon the completion of the project. If the Final Report is a completed Department-approved Watershed Restoration and Protection Plan, then three (3) hard copies and one (1) electronic copy of the Final Report must be submitted. The Department must deem the report acceptable prior to the release of final payment of grant funds to the applicant. The format for the Final Report can be found in Appendix E.

10. OTHER REQUIREMENTS FOR PROJECTS SELECTED FOR FUNDING

Quality Assurance Project Plan (QAPP)

If the Department approves water quality monitoring as the means to demonstrate effectiveness of the project, a Quality Assurance Project Plan (QAPP) will be required. If required, the QAPP must be approved by the Department before any monitoring, measurements, or data generation is initiated. A QAPP includes the purpose, the design to achieve the purpose, collection and analysis procedures, certified lab to be used, and other quality assurance measures. A template for a QAPP is provided in Appendix C.

Note: QA/QC certifications for field collection, field parameters, and/or lab analyses are required for an approvable QAPP. Water Quality Restoration funds cannot be used to pay for these certifications.

Reimbursement for Services

Water Quality Restoration funds are provided in reimbursement for services rendered. Exceptions to this policy will be made only in extenuating circumstances and only with prior Department approval.

Native Species

All implementation projects that involve the selection and planting of vegetation are required to use only species of plants native to that particular region of New Jersey, whenever possible. In some circumstances, non-invasive, non-native plant species could be considered if the need is demonstrated. Successful applicants are advised that the Department must approve the final species list indicating quantities and a planting plan with location and procedures prior to purchase and installation of any plant material.

Federal Funding Accountability and Transparency Act (FFATA); 319(h) funds only

The Federal Funding Accountability and Transparency Act (FFATA) requires information on federal awards be made available to the public via a single, searchable website, which is www.USASpending.gov. The intent of the FFATA is to increase government accountability. To comply with this legislation, the FFATA Sub-Award Reporting System (FSRS) is the reporting tool Federal prime awardees (i.e. grant recipients) must use to capture and report sub-award (i.e. subcontractor) and

executive compensation data regarding their first-tier sub-awards (i.e. subcontracts) to meet the FFATA reporting requirements.

In accordance with 2 CFR Chapter 1, Part 170 REPORTING SUB-AWARD AND EXECUTIVE COMPENSATION INFORMATION, Prime Awardees (grant recipients) awarded a federal grant are required to file a FFATA sub-award (subcontractor) report by the end of the month following the month in which the prime awardee (grant recipient) awards any sub-grant (subcontract) equal to or greater than $25,000. User guides, FAQs, and an on-line demonstration are currently available at the FSRS website at https://www.fsrs.gov/. Although it is the Prime Awardee (grant recipient) that must file the report, the Department can assist the Prime Awardee (grant recipient) with this reporting as needed.

All grants receiving 319(h) funds shall comply with all applicable requirements of 2 CFR 200 governing administrative requirements, cost principles and audit requirements for federal awards. If a project has received any federal funds associated with it, then the Department will notify the water quality restoration grant recipient at the time of the grant award.

Federal Funded Agreement Provisions of Grant Contract; 319(h) funds only

Federal 319(h) grant contracts are required to contain certain specific provisions regarding debarment and suspension, restrictions on lobbying, compliance with the Civil Rights Act of 1964 among other things. If a project has received any federal funds associated with it, then the Department will notify the water quality restoration grant recipient at the time of the grant award.

Federal Funded Agreement Provisions of Grant Contract; 604(b) funds only

The Department is making federal 604(b) pass through funds available from previous award years (SFY 2015-2020) and as such each EPA grant award year is limited to three-year grant period. Thus, potential grantees are being advised in advance that the Department will be unable to extend the grant period beyond that of the funding cycle. The grantee will need to perform the work and submit supporting documentation and payment requests within the agreed upon work period to ensure payment.

In addition, grantees funded through 604(b) will be subject to General Condition 11: “Recipient Integrity and Performance Matters- Reporting of Matters Related to Recipient Integrity and Performance.” This condition highlights requirements for grant recipients to report applicable information on civil, criminal, or administrative proceedings.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants NJDEP SAGE Application Guidance for Project Proposals

Appendix A

The NJDEP's System for Administering Grants Electronically (SAGE) is a web-based application used by the Bureau of Environmental Analysis, Restoration and Standards to accept and approve Water Quality Restoration Grant applications and manage executed grants. Eligible grant applicants will need to submit their grant application and manage it using the SAGE system located at https://njdepsage.intelligrants.com.

My Organization(s)

Organization Name - is the eligible entity applying for the Water Quality Restoration grant funding.

Short Name – is an abbreviated name for your organization.

Vendor ID Number – can obtain a Vendor ID number through the Department of the Treasury's NJSTART eProcurement System (https://www.njstart.gov/bso/).

DUNS Number – is required only for Federally-funded awards. If you need to find or register for a DUNS Number it is through Dun & Bradstreet (https://www.dnb.com/duns-number/lookup.html).

Organization Members - There are two roles for an organization, Authorized Official(s) and Viewer(s). The Authorized Official(s) can edit, save and submit a document in the system. The viewer(s) can only view the documents. The Contact Person, Fiscal Officer, and Project Manager must be added as Organization Members.

Profile Information

Contact Person Name - The list is derived from the members you input in My Organization(s). This is the person that will be responsible for the grant throughout the duration of the grant. Responsibilities include being the primary contact for execution of the grant agreement and payment transactions; ensures that the resolution to accept the grant award is passed by the governing body; ensures that the grant agreement is signed by the proper officials; ensures that

the signed grant agreement is submitted to the Water Quality Restoration Grant Program; supplies copies of invoices for the grant project work and proof of payment documents; and, timely submission of any other related material required for submission to the Water Quality Restoration Grant Program. The contact person may not be an independent contractor.

Fiscal Officer Name: The list is derived from the members you input in My Organization(s). This is the person in the organization that can be contacted for financial information and will be responsible for submitting the financial reports.

Project Manager - The list is derived from the members you input in My Organization(s). This is the person that will be the primary contact for the Water Quality Restoration Grant Program regarding project work, responsible for managing the grant and providing timely progress reports on implementation and performance.

Partner Information – This is an organization(s) that will partner with the grantee to complete the project.

Project Details

Project (RFP) Category – is the grant opportunity sought from the RFP.

Climate Change Resiliency = Projects that promote climate change resiliency

Development of Watershed Plan(s) = Development of Watershed Plans in the Upper and Lower Delaware River Watershed Management Areas

Green Infrastructure = Green Infrastructure Projects in Environmental Justice Communities

Lake(s) = Development of Lake Protection Plans and/or Watershed Plans to address HABs

Living Shoreline = Not a listed priority in this RFP

Priority Watershed WBP/TMDL Implementation = Implementation of approved Watershed Plans

Urban Ed Program/Volunteer Monitoring = Not a listed priority in this RFP

WQMP/Wastewater Management Plan = Development of Wastewater Management Plans

Other = A category not specified in the RFP

Project Title – is the title of the proposed project.

Estimated Project Duration in Months - is an estimate of the time needed to complete the project, in months. Estimations should factor in administrative start up time and anticipated delays. There is no penalty for completion of a project ahead of schedule, while "no cost time extensions" will only be granted in extenuating circumstances.

Grant Amount Requested - is the amount of funding sought from the Water Quality Restoration Grant Program.

Match - is the amount of local funding dedicated to the project.

Other Funding – is the amount of funding that is not a match which is dedicated to the project.

Project Location

Select the County and Municipality where the proposed implementation project or planning watershed will be located. If the project is Statewide, click the Statewide box.

Include the Block/Lot number, when appropriate.

Based on the County/Municipality selected, a list of Watershed Management Areas (WMAs) will populate. Select the WMA that will contain the proposed implementation project or planning watershed.

Legislative/Congressional Districts

This will automatically populate based on the county/municipality selected for the Project Location.

Waterbody Information

Assessment Unit Number(s) and 303(d) Listing Pollutant – This is automatically populated and for information use only. You do not need to select anything.

Name of Water Quality Management Plan(s) Project is Implementing - is the name and approval date of the New Jersey Department of Environmental Protection approved watershed-based plan that specifically describes the need for the proposed project.

Primary Waterbody - is the primary waterbody that is the target of the implementation project. Water quality improvement will be achieved in this waterbody through the implementation of the proposed project, if applicable.

Other Waterbody(s) – is any other waterbody that will benefit from the implementation project.

Status of TMDL for Primary Waterbody – select if known. Otherwise select NA.

Best Management Practices Information

Work Categories – is a means of expressing in broad terms the type of activity of the project.

Sources of Non-Point Source Pollution (NPS) – a means to identify where the primary pollutant(s) are coming from and what the project is attempting to correct.

Type of NPS Implementation Project - is a general category by which the proposed implementation project(s) can be described (*e.g.* stormwater BMP, streambank restoration etc.).

Primary Pollutant(s) Targeted - is the reason the NPS implementation project is being proposed. List the primary pollutant(s) targeted. The abatement of this pollutant(s) is the main focus of the project.

Additional Pollutant(s) Addressed - list any pollutants that will be addressed by the NPS implementation project that are secondary to the primary targeted pollutant(s).

Project Proposal

Project Background Summary Information – A description of the problem as it relates to the priorities in the RFP.

Project Description –Explain the project and how it will address the problem and priorities in the RFP. Must contain your goals, objectives, and tasks to complete the project.

Applicant Description – must demonstrate experience and expertise with completing and/or project management oversight for the type of project(s) proposed, including a description, estimated amount and type of in-kind contributions proposed by applicant. This section must also include a list of project partners, including estimated amount and type of in-kind contributions proposed by the project partners. In-kind contributions are not required, however projects with in-kind contributions and partner support could receive a higher priority.

Monitoring and Evaluation Information - a description of how attainment of project objectives will be measured or demonstrated.

Implementation Schedule and Budget

The implementation schedule and budget by objective and task that includes project deliverables and the responsible party.

Budget Details

A justification of each of the proposed project budget categories and amounts.

Supplemental Information

Upload any letters of resource commitment, site plans, maps, blueprints, etc.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants Quality Assurance Project Evaluation Criteria

Appendix B

The primary criteria for evaluation of proposals which are deemed eligible and complete are:

1) **Project Applicability (up to 25 points)**
   - The degree to which the proposal addresses one or more of the watershed areas or project types identified in the Request for Proposal;
   - The degree to which the proposal would potentially reduce a known impairment;
   - The degree to which proposal would result in a positive environmental outcome;
   - The degree to which the project would leverage other positive environmental outcomes such as open space, recreational benefits, access to water, living shoreline creation and habitat enhancement.;
   - Integration of project with federal, state and local programs, plans and policies including Executive Order No. 23 (https://nj.gov/infobank/eo/056murphy/pdf/EO-23.pdf); and
   - Magnitude of water quality, public health, and environmental benefits associated with the proposal.

2) **Project Readiness (up to 25 points)**
   - Project feasibility;
   - Proposed design completion date;
   - The degree to which the project is readily implementable (shovel ready);
   - Consistency with existing local, state and federal requirements and ability to attain permits needed to implement the project; and
   - The degree of public engagement and/or support for the proposed concept.

3) **Likelihood of Success (up to 30 points)**
   - Technical merit (water quality improvement, reduction of pollutants);
   - Past performance of the applicant and/or applicant's partners (as identified in the project proposal), if applicable;
   - Ability of the applicant to complete the project or contract, or work with another entity to complete the project;
   - Qualifications of the proposed personnel (in-house and contracted) to ensure grant agreement compliance as well as completing project design and construction;

- Letter of resource commitment;
- Ability of the grantee to garner approval of property owners and secure long-term maintenance agreements; and
- Ability to deliver measurable outcomes and long-term sustainable benefits.

4) Cost Share/Matching Funds/Leveraging of other Funding Sources (up to 10 points)

- Level of matching funds (in-kind or other funding);
- Leverage funding by combining with other funding sources (e.g. Farm Bill, Penn Foundation, Hazardous Discharge Remediation Fund, State Revolving Funds);
- Budget detail (funding source allocation per project component); and
- Cost effectiveness.

5) Monitoring and Evaluation Information (up to 10 points)

- How attainment of project objectives will be measured or demonstrated.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants Quality Assurance Project Plan (QAPP) Guidance

Appendix C

A QAPP is a written document that describes the quality assurance procedures, quality control specifications, and other technical activities that must be implemented to ensure that the results of the project or task to be performed will meet project specifications. If the application is chosen for funding, and if a QAPP is required to achieve the tasks outlined in the scope of work, a QAPP must be submitted by the Grantee and approved by the Department prior to any water quality sampling through a NPS grant.

No water quality monitoring shall begin until the QAPP has been approved by the Department. Any sampling done prior to securing an approved QAPP will not be considered within the project's scope of work and the Grantee will not receive financial reimbursement for such sampling. Once the Grantee has received comments from the Department, the Grantee shall revise the QAPP to address said comments and submit the final QAPP to the Project Manager. The response to comments should be bolded in the body of the document and numbered to correlate with the comment number.

For Grantees unfamiliar with QAPP procedures and protocol, a meeting with Department QAPP staff will be coordinated in order to facilitate this process. Please contact your Project Manager to make those arrangements.

The QAPP guidance was developed based upon USEPA's document entitled "EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5" (EPA/240/B-01/003). This document, as well as additional information regarding QAPPs, can be found at http://www.epa.gov/quality/.

Upon completion and acceptance of collected monitoring data, the grantee is required to submit the data in electronic form either through WQDE or WQX web per guidance provided by the Project Manager.

The guidance on the following pages outlines the required elements of a QAPP Document.

QAPP DOCUMENT TABLE OF CONTENTS

Section 1: Title and Approval Sheet	Page 1
Section 2: Distribution List	Page ___
Section 3: Project / Task Organization	Page ___
Section 4: Problem Definition / Background	Page ___
Section 5: Project / Task Description	Page ___
Section 6: Sampling Procedures	Page ___
Section 7: Training Requirements and Certification	Page ___
Section 8: Sample Handling and Custody Procedures	Page ___
Section 9: Sampling Method Requirements	Page ___
Section 10: Analytical Methods Requirements	Page ___
Section 11: Calibration Procedures and Preventative Maintenance	Page ___
Section 12: Quality Assurance and Quality Control	Page ___
Section 13: Documentation and Records	Page ___

List of Figures ***Page*** ___

List of Tables ***Page*** ___

List of References ***Page*** ___

List of Appendices

Appendix A – Scope of Work from executed Contract (Attachment D)

Appendix B – Map(s) with monitoring locations identified in Section 5

Appendix C – Quality Assurance/Quality Control (QA/QC)

Section 1: Title and Approval Sheet

QUALITY ASSURANCE PROJECT PLAN (QAPP)

Name of Water Quality Restoration Grant

Contract WM #: WMXX-XXX

Prepared by: _____ Date: _____

QAPP Preparer

Affiliation

Reviewed by: _____ Date: _____

Preparer's Organization QA/QC Officer (if there is one)

Affiliation

Reviewed by: _____ Date: _____

NPS Grantee

Reviewed by: _____ Date: _____

NJDEP Staff, Project Manager

Division of Water Monitoring and Standards, BEARS

Reviewed by: _____ Date: _____

Bureau QAPP Reviewer

Division of Water Monitoring and Standards, BEARS

Reviewed by: _____ Date: _____

Section Supervisor

Division of Water Monitoring and Standards, BEARS

Approved by: _____ Date: _____

NJDEP Quality Assurance Officer

Office of Quality Assurance

Names of other organizations involved in project (such as field operations manager, laboratory managers, State, and Federal agency officials, etc.) should be included on this cover sheet as well as the Distribution List.

Section 2: Distribution List

The Distribution List includes individuals and their organizations that need copies of the approved QAPP and any subsequent revisions. See Table below.

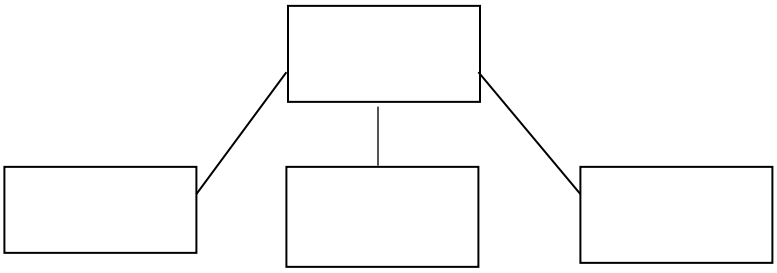
Name	Organization	Address	email
Project Manager			
QA Officer			
Laboratory			
Grantee			
Project Manager	NJDEP – Division of Water Monitoring and Standards, BEARS	401 E. State Street P.O. Box 420 Mail Code 401-04I Trenton, NJ 08625-0420	Fname.Lname@dep.nj.gov
Bureau QAPP Reviewer	NJDEP – Division of Water Monitoring and Standards, BEARS	401 E. State Street P.O. Box 420 Mail Code 401-04I, Trenton, NJ 08625-0420	
Section Supervisor	NJDEP – Division of Water Monitoring and Standards, BEARS	401 E. State Street P.O. Box 420 Mail Code 401-04I, Trenton, NJ 08625-0420	
	NJDEP – Office of Quality Assurance	401 E. State Street P.O. Box 420 Mail Code 401-02D, Trenton, NJ,08625-0420	

Section 3: Project/Task Organization

Identify individuals or organizations involved in the project and discuss their specific roles and responsibilities. Include the principal data users, the decision makers, the project QA manager, and all persons responsible for implementation. Provide a concise organization chart showing the relationships and the lines of communication among all project participants.

Figure: Organization Chart

Insert organization chart per Section 3 above.



Section 4: Problem Identification/ Background

State the specific problem to be solved, decision to be made, and/or outcome to be achieved. Include the sources and causes of impairments [from 303(d) List], known problems, Total Maximum Daily Loads (TMDLs), other threats to water quality (from experience or other studies), conflicts and known efforts to address these issues (from experience or other studies). Describe land use, Category 1 designation, and identify any previous efforts and/or studies and conclusions.

In Appendix A of the QAPP Document, include the project Scope of Work, which is Attachment D in the executed Contract.

Section 5: Project / Task Description

Describe all work to be performed, products to be produced and the schedule for implementation needed to resolve the problem described in Section 4. ***Maps and tables that show and state the geographic locations of field tasks must be provided.***

Sample Locations and Rationale: Justification for each location. Mark sample locations in the field with stakes and surveying tape for possible field visit.

Table: Sample Locations and Rationale

Location I.D.	***Name***	***Justification***

Temporal and Spatial Aspects:

Frequency: for example, bacteria samples should be collected five times per location within a 30-day period between Memorial Day and Labor Day. Other parameters may be collected eight times per location within a two-year period on a quarterly basis. This represents the optimum sampling regime but may be modified based on project goals with Department approval.

Conditions: include baseline, baseflow, wet weather and first flush. Define the condition and explain the rationale.

Parameters:

Describe the selected parameters and rationale for the specific parameter at each location. For example: In-situ water quality parameters (temperature, pH, DO, conductivity, flow, discharge, diurnal DO, etc.), chemical water quality parameters (nitrate, nitrite, TKN, TP, TSS, TDS, etc.), bacterial parameters, physical parameters (flow, bathymetric data, etc.), benthic macroinvertebrates.

Table: Summary of Monitoring Design

Type	***Baseline***	***Wet Weather***	***Dry Weather***	***Bacteria***	***Biological***
Frequency					
Parameters					
Sample Location					
SW-1					
SW-2					
SW-3					

Schedule:

Insert and populate a table below (Table 5.3) with the proposed schedule of sampling for collecting data to be analyzed.

Table: Field Sampling Schedule for Data Collection

Section 6: Sampling Procedures

All samples should be collected in conformance with the NJDEP Field Sampling Procedures Manual and applicable USEPA guidance. All instrumentation for the collection of field data will be properly calibrated in conformance with the manufacturer's instructions and the NJDEP Field Sampling Procedures Manual.

Section 7: Training Requirements and Certification

Identify and describe any specialized training/certifications needed by personnel in order to successfully complete the project. Discuss the training that will be provided and how the necessary skills will be assured and documented. Include any required certification information, such as the laboratory certification or the NJDEP field sampling certification numbers.

Section 8: Sample Handling and Custody Procedures

Describe how samples should be handled, transported, and then received in the laboratory or office. Include how handling and custody is documented (through field notebooks or forms, etc.) and identify responsible personnel. For parameters measured in this project, provide information on container, volume, initial preservation, and holding times in the table below. Identify chain of custody procedure. Separate form may be attached.

Table: Sample Handling and Custody

Parameter	Container	Volume	Initial Preservation	Holding Time

Section 9: Sampling Method Requirements

Table: Sampling Locations and Sampling Methods

Sampling Location	cation ID mber	Matrix	epth (units)	alytical ameter	Samples (include field duplicates)	ampling SOP #	ample olume	ontainer #, size, type	Preservation (chemical, emperature, light protected)	Maximum Holding Time: Preparation/ analysis

Section 10: Analytical Methods Requirements

Provide reference to the analytical procedures, including field measurements and laboratory that will be used in the study.

Table: Field and Laboratory Analytical Methods

Analyte	Laboratory / Organization	Project Action Limit (units, wet or dry weight)	Project Quantitation Limit (units, wet or dry weight)	Analytical Method		Achievable Laboratory Limits	
				Analytical Method/ SOP	Modified for Method yes/no	MDLs	Method
e.g. pH	Field: monitoring by field staff	6 - 9 pH units	NA	Standard Methods (*) 4500H+B FDCC Field SOP 1	None		
e.g. Total coliform and E. coli	Lab: In-house laboratory	< 20 MPN/100mL for E. coliforms	2 MPN/100mL	Standard Methods 9223B Enzyme substrate method	None	Not applicable	2 MPN/100 mL

(*) Standard Methods for the Examination of Water and Wastewater, 20th edition.

Section 11: Calibration Procedures and Preventative Maintenance

Table: Instrument Calibration Table

Equipment / Instrument	SOP reference	Calibration Description and Criteria	Frequency of Calibration	Responsible Person

List equipment and provide testing, inspection and maintenance information in narrative form or in the Table below. Information such as availability/location of spare parts or corrective action should be identified only if these items are not addressed in the SOP.

Table: Testing, inspection, maintenance of sampling equipment and analytical instruments

Equipment / Instrument	Maintenance Activity, Testing Activity or Inspection Activity	Responsible Person	Frequency	SOP Reference

Section 12: Quality Assurance and Quality Control

N.J.A.C. 7:18 and 40 CFR Part 136 should be followed for all quality assurance and quality control (QA/QC) practices including detection limits, quantitation limits, precision and accuracy and documentation attached as Appendix C.

Section 13: Documentation and Records

Submit a CD with the approved QAPP, all monitoring data in Excel, including explanations of anomalies and Summary Report. Describe the process and responsibilities for ensuring the appropriate project personnel have the most current approved version of the QAPP, including version control, updates, distribution and disposition.

Itemize the information and records which must be included in the data report package and specify the reporting format for hard copy and any electronic forms. Records can include raw data, data from other sources such as databases or literature, field logs, sample preparation and analysis logs, instrument printouts, model input and output files, and results of calibration and QC checks.

Identify any other records and documents applicable to the project that will be produced, such as audit reports, interim progress reports, and final reports. Specify the level of detail of the field sampling, laboratory analysis, literature or database collection, or modeling documents or records needed to provide a complete description of any difficulties encountered.

Specify or reference all applicable requirements for the final disposition of records and documents, including location and length of retention period.

List of Figures

List of Tables

List of References

List of Appendices:

Appendix A – Scope of Work from executed Contract (Attachment D)

Appendix B – Map(s) with monitoring locations identified in Section 5

Appendix C – Quality Assurance/Quality Control (QA/QC)

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants Quarterly Reporting Requirements

Appendix D

Grantee must submit a progress and financial report through the SAGE system quarterly.

Summary of Progress for this Quarter: Must include a Status, Next Steps, and Timeframe (start date and end date) for each Objective and Task as outlined in your Scope of Work. Must include major project activities implemented, number of sites addressed, progress in attainment of the project objective, timelines, percentage of tasks complete, etc. If a work product has been developed, this should be included in the Quarterly Report, for example an educational brochure.

Itemization of Salary Expenditures for this Quarter: Must detail the work performed for each employee per objective as reported in the financial report for the quarter.

Slippage Report: Must describe any slippage in project timeline or budget along with an explanation and revised timetable, budget, and new completion schedule. Please note that project no-cost time extensions must be applied for through the project manager and will only be granted when the grantee has demonstrated unforeseeable project setbacks. No project will be granted more than one no-cost time extension unless an exception is given from the Director of the Division.

Problems/Issues: Must describe any problems encountered in project implementation, such as unanticipated events and their consequences, along with a description of the solutions applied (should cross-reference the slippage report if applicable).

Additional Information:

1) Deliverables/Work Product;
2) Photos: All pictures should be saved with names that are indicative of the picture and purpose (i.e. WM15-XXX post-imp stormwater);
3) Surveys;
4) Attendance sheets (meetings, outreach events, etc.…); and
5) Approved QAPP

BMP Information: If a Best Management Practice (BMP) has been implemented, the BMP Information Page must be completed. The grantee must supply information about the project such as completed date, location, waterbody improving, contributing drainage area, BMP size, BMP type, load reductions, and cost.

All Progress Reports Must Include a Financial Report

A financial report is required to be submitted with every quarterly report. If there are no expenditures for the work period, the expenditure report must still be submitted indicating $0 in the total. Fiscal Information should include: time sheets, phone logs, mileage logs, bills, and receipts for expenditures related to the project.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants
Final Reporting Requirements

Appendix E

The final report must include the following information:

1) Executive Summary
A brief abstract of the project that can also serve as a stand-alone document and includes the following information:

- ☑ ___ Description of project area
- ☑ ___ Summary of the existing conditions addressed
- ☑ ___ A brief summary of the overall project (e.g., its goals, methodology, affected locations, and time frame)
- ☑ ___ Highlight major results or outcomes of the project
- ☑ ___ Project implications and recommendations

2) Evaluation Approach and Methodology
Presents a brief background on the method for evaluating project success, possible applications of results, and includes the following:

- ☑ ___ List of major questions answered by the evaluation
- ☑ ___ Description of the overall evaluation design and schedule of data collection
- ☑ ___ Description of the evaluation techniques and targets and why those approaches are an appropriate measure of success.

3) Results of Project and Evaluation
The project evaluation shall include, at a minimum, the following information:

- ☑ ___ A summary of results
- ☑ ___ A detailed evaluation of findings, including relevant tables, graphs, charts
- ☑ ___ A breakdown of findings by relevant variables
- ☑ ___ An integration of results from multiple qualitative and quantitative data sources
- ☑ ___ A statement of implications of the project
- ☑ ___ Specific recommendations for future action
- ☑ ___ Suggested means for disseminating project results, including technology transfer
- ☑ ___ A description of strategies for assuring utilization of project results
- ☑ ___ Submission of as-built plans for implementation projects

4) Appendices

The following items, at a minimum, shall be included in the final report

- ☑ ___ A list of all equipment purchased (with associated specification) under the grant and the date in which they were returned to the Department.
- ☑ ___ Additional Photos: all digital pictures related to the grant with some key to decipher each picture both spatially and temporally. You should include the photographer's name and WM# so that credit may be given. This electronic copy, or similar as appropriate, is required even though pictures have been submitted in Quarterly Reports, as it provides one digital library of the project. All pictures should be saved with names that are indicative of the picture and purpose (i.e. WM15-XXX post-imp stormwater)
- ☑ ___ Educational Materials: , if an educational brochure was created or a sampling manual or maintenance manual was developed these should be submitted with all other like materials on a separate electronic copy, or similar as appropriate, titled Deliverables.
- ☑ ___ Monitoring Data: An electronic copy, e, with all raw data in usage format. Any comments or considerations should also be included on this electronic copy, or similar as appropriate, (data point for site b on 8/2/2015 was considered an outlier because …) and a brief summary of data (this will probably be contained in your final report and should just be copied/pasted here also).

Nonpoint Source Success Story

Format and Content for Success Stories

Each story should run 1-2 pages in length, addressing all of the information identified in each category below to the extent possible (aim for a maximum of 950 words). The story should provide a clear, succinct summary in plain language so that the general public will be able to understand. Use a non-technical, plain language description or definition (or photo) that demonstrates the meaning. Please note that all examples below are excerpted from published Success Stories.

I. TITLE

Create a brief title that uses a verb.

Example:

Stream Restoration Efforts Reduce Impacts of Acid Mine Drainage

II. WATERBODY IMPROVED *(one paragraph)*

1. What was the water quality problem?
2. What was done to address the problem?
3. Did the waterbody improve or was it removed from the state's 303(d) list?

Example:

The North Fork of the South Branch of the Potomac River is a scenic trout stream in the headwaters of the Potomac River in northeastern West Virginia. Water in the North Fork had high levels of fecal coliform bacteria, primarily from agricultural runoff from beef and poultry farms. Over 85 percent of farmers in the watershed worked together to construct animal waste storage facilities, establish riparian buffers, and implement a range of other best management practices (BMPs) at the farms. As a result, the stream now meets its designated use and is no longer impaired by fecal coliform bacteria

III. PROBLEM *(generally two paragraphs)*

1. Specify the location of the waterbody, and, if relevant, geographic connection with other streams/rivers.
2. (a) What year was the waterbody put on the 303(d) list? (b) What beneficial use was not met? (c) Which parameter was the cause of the listing, if known? (d) If not identified in the listing, what pollutant(s) is believed to have been responsible for the impairment?
3. What specific segment (and/or length) of the waterbody was listed?
4. Describe the source(s) of the problem and specify category and subcategory (e.g., agriculture, cattle with access to streams).
5. If desired, list any major study that may have documented the problem. If data is available, include monitoring results that showed the water quality problem.
6. Was a TMDL done? If so, please provide information (e.g., the waterbody was listed for [insert parameter here], and the TMDL said it was necessary to meet a target of [insert concentration or loading] to achieve water quality standards).
7. What is the water quality goal or water quality standard that needed to be achieved to address the problem (e.g. rolling 7-day maximum average of 64°F)?

Example 1:

Cobbossee Lake (short for Cobbosseecontee), a large 5238-acre lake in central Maine, is valued by people for fishing, swimming, boating, and wildlife. One of Maine's premier bass fishing lakes, Cobbossee Lake is also a secondary source of drinking water for Maine's capital—Augusta.

In the 1960s water quality in Cobbossee Lake began to deteriorate. Elevated nutrient (i.e., phosphorus) levels spurred the growth of noxious blue-green algae, which reduced water clarity, formed green surface scums, and depleted oxygen in the bottom waters of the lake. The excess phosphorus in Cobbossee Lake's watershed was caused by soil erosion and runoff from agricultural, residential, and commercial lands, and the gradual conversion of forested land into developed land. The other significant source of phosphorus came from Annabessacook Lake, immediately upstream of Cobbossee. At one time, Annabessacook received sewage discharges from the town of Winthrop, and this nutrient-rich sewage caused algae blooms. Although sewage discharges to Annabessacook Lake were eliminated by 1977, the phosphorus in the lake's sediments continued to recycle and flow into Cobbossee Lake.

The Total Maximum Daily Load (TMDL) assessment developed for Cobbossee Lake in 1995 estimated that two-thirds of the external phosphorus load came from the lake's direct 32-square-mile watershed, and one-third came from the indirect upstream watershed. Agriculture accounted for about 60 percent of the phosphorus and developed lands accounted for about 40 percent of the phosphorus load. The

TMDL showed that in-lake phosphorus needed to be reduced to 15 parts per billion (ppb), or 5,904 kg P/yr, for Cobbossee to attain Maine's water quality criterion for water clarity (more than 2 meters of Secchi Disc Transparency).

Example 2:

Furlong Creek flows through Mackinac County in Michigan's Upper Peninsula. Surveys conducted in 1989 found diverse fish and macroinvertebrate communities in the creek. By 1999, however, cattle grazing on private property had unrestricted access to the creek. The animals walked in the creek and trampled riparian vegetation, causing excessive instream habitat disturbance and sedimentation.

Subsequent creek monitoring revealed low fish and macroinvertebrate diversity. Pollution-sensitive insect families (e.g., caddisflies, stoneflies, and mayflies) and fish species (e.g., rainbow trout) were absent or very rare. These aquatic life support impairments led Michigan to place a 4-mile segment of Furlong Creek on its 303(d) list in 1996.

IV. PROJECT HIGHLIGHTS *(generally two paragraphs)*

1. What major BMPs /activities addressed causes of pollution and demonstrated in-stream improvements?
2. Who were major partners in the effort?
3. During what timeframe did the activities occur?
4. Was there a larger context of a watershed / comprehensive plan?
5. Are there ongoing plans to continue improvement?

Example 1:

In August 2001 EPA approved a TMDL for siltation that called for a 50 percent reduction in sediment delivery to the lake. To accomplish this goal, the Decatur County Conservation Board and the Decatur Soil and Water Conservation District proposed the construction of two large basins to slow sediment delivery originating from gully erosion. The Iowa Department of Natural Resources' (IDNR) Nonpoint Source Pollution Program provided further suggestions to address the problem using a watershed approach. As a result, the plan was expanded to include seven smaller sediment basins throughout the watershed. To further stabilize the shoreline of Slip Bluff Lake, the Iowa Department of Transportation and the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation (IDALS-DSC), provided funds to riprap portions of the shoreline.

To ensure the continued success of this project, the Decatur County Conservation Board maintained the project by planting additional seedings in exposed soil on the constructed sediment basins

Example 2:

An educational effort on reducing fertilizer and chemical usage targeted landowners and highlighted the benefits of potential cost savings. One-on-one meetings and public sessions were held to teach peanut and alfalfa growers integrated pest management techniques including proper weed and insect scouting, determining pest thresholds, interpreting soil test reports and proper fungicide use. Demonstration

BMPs illustrated techniques to manage vegetation; exclude cattle from riparian zones; and reduce nutrient, pesticide, and sediment loading. BMPs implemented from 1995 to 2002 included reduced tillage planting in peanut fields, riparian fencing, alternative livestock water source construction, grade stabilization structures, diversion terraces, deferred grazing, rotational grazing,

V. RESULTS

1. What water quality goals were achieved?
2. Was the waterbody delisted? If so, which year was it delisted, or when does the state expect to delist the waterbody?
    a. Note: *EPA may count this waterbody as being "partially or fully restored" for Strategic Plan purposes (Category 1 story) even if the waterbody has not officially been removed from the 303(d) list, as long as the story demonstrates that actual restoration has occurred and the state has nominated that the waterbody be delisted in the next 303(d) cycle. It is not sufficient to merely believe by the next 303(d) list cycle, that restoration will have occurred*
3. Were there load reductions in other pollutants that indicate progress (include reported load reductions reported to the Department if applicable)?
4. Were any new ordinances or laws put into place as a result of the actions?

Example 1:

By 2003 biological integrity and habitat at Blue Spring Creek had improved, as measured by the higher diversity and types of macroinvertebrates such as insects, crayfish, snails, and clams—indicators of good water quality. Almost twice as many EPT families (a category of insects used to measure water quality) were present in 2003 (11 EPT) than in 1999 (6 EPT), and 25 different taxa were collected in 2003 as compared to 15 different taxa found in 1999. Eight of these families are intolerant of pollution. These metric values represent the highest score possible (15) out of a family-level biological reconnaissance (biorecon) index that considers scores from 11 to 15 indicative of a non-impaired biological community. The habitat assessment score had improved from 114 in 1999, which is considered inadequate in the ecoregion, to a score of 136—well above the target habitat score of 123, which indicates a healthy biological population in the ecoregion. As a result, Blue Spring Creek was removed from Tennessee's 303(d) list in 2004.

Example 2:

The Bass Lake restoration project achieved TMDL targets by reducing the average phosphorus concentrations from 490 μg/L to 10 μg/L, and the lake will be removed from the state's 303(d) list in the next listing cycle. Farmers' participation in nutrient management planning should reduce nutrient delivery from cropped areas in the watershed even further.

The alum treatment dramatically reduced total phosphorus in Bass Lake. Without the high concentration of phosphorus to feed on, heavy blue-green algae blooms no longer cover the lake and water clarity continues to improve. Secchi disk readings have improved from less than 10 feet before the project to up to 20 feet during July 2004 after the alum treatment. No fish kills have been noted since the project, and the fish population appears healthy.

Example 3:

Between March and October of both 2003 and 2005, ADEM collected dissolved oxygen data at three sites on the impaired segment of the Flint River. The agency also collected continuous dissolved oxygen data at two of the sites during July 2005.

As shown in the following table, only two monthly measurements (4.6 mg/L and 4.97 mg/L) fell below the state minimum criterion of 5.0 mg/L for the public water supply and fish and wildlife designated water use classifications. Furthermore, none of the continuous dissolved oxygen measurements were below the minimum criterion.

ADEM's assessment methodology stipulates that conventional water quality parameters, including dissolved oxygen, may not exceed water quality standards more than 10 percent of the time in waterbodies designated as public water supply and fish and wildlife resources. The data demonstrate that this 28-mile segment of the river now meets this requirement. As a result, ADEM has proposed that the segment be removed from the state's 2006 303(d) list of impaired waters. The next scheduled monitoring year for the segment is 2008

Example 4:

The accompanying table compares key Whetstone Brook biomonitoring results with Class B water guidelines. Data highlighted in bold indicate the waterbody's failure to meet aquatic life support biocriteria for Vermont Class B waters. These data led to Whetstone Brook being added to Vermont's 303(d) list in 1998.

The monitoring team reassessed the segment in 2002 and found significant biological improvement. However, before 2004 (when Vermont revised its listing methodology for impaired waters), a waterbody could not be removed from the state's impaired list until 2 years of biological monitoring data showed compliance with water quality standards. Such compliance was confirmed in 2003. The EPT richness, BI values, and other biological indicators for both years remained well within the Class B guideline. In addition, the team found no evidence of oil sheens either year.

Because of these findings, VT DEC concluded that oil/grease no longer impaired Whetstone Brook's aesthetic and aquatic life uses. As a result, Vermont removed the waterbody from its 303(d) list in 2004. Whetstone Brook is scheduled to be monitored again in 2008.

VI. PARTNERS and FUNDING

1. List specific partners who contributed to the improvements in the waterbody.
2. List specific amounts of NPS dollars dedicated to the project (mention total amount over the lifetime of the project).
3. What did the NPS dollars support?

4. If NPS grant money was not used for the project, please describe the involvement in this project by any staff member who works in the states' NPS program, if applicable. Additionally, was the project patterned after any other projects that have been funded by NPS. The objective here is to try and link NPS grant elements to the success of the project.

5. Identify other matching sources of funding (e.g., state agricultural funds, USDA/EQIP, Water Bank Funds, and local/private if such information is available).

6. Please provide GRTS numbers (9-digit grant number) if applicable. GRTS numbers are for internal tracking purposes only and will not be included in the story. If the Region or State is unable to provide this information, HQ will attempt to match up project with GRTS numbers. In this case, please provide project name.

7. BONUS question: What Congressional District does the waterbody reside in? This is for the purposes of tailored mailings to congressional members, which are frequently requested by Office of Water management or by the Office of Congressional and International Relations (OCIR). If the state cannot provide this information, Headquarters staff will attempt to determine the District number.

Example 1:

The cooperation of 28 members of the LVWCC, representing local, state, and federal agencies, local environmental groups, businesses, and interested citizens, was essential in the creation of a comprehensive management plan for the Las Vegas Wash. Volunteers also played an important role in the project, providing the needed labor for wetland and riparian plantings and invasive vegetation removal. The overall cost to implement the CAMP is projected to be approximately $127 million through 2013.

As of 2006, $33 million has been spent on CAMP implementation. Approximately $600,000 of section 319 funds was used to support construction of erosion control structures, bank revegetation, and public outreach efforts. Participating agencies contributed $1.8 million during the 2005–2006 fiscal year.

Example 2:

Partners involved in the effort were North Carolina Division of Water Quality, Soil and Water Conservation Districts, North Carolina Division of Soil and Water Conservation, North Carolina Cooperative Extension, U.S. Department of Agriculture's Natural Resources Conservation Service, North Carolina Department of Agriculture, North Carolina Farm Bureau, North Carolina State University, and agricultural community and commodity groups. The North Carolina Environment Management Commission brought together stakeholder groups of affected parties and provided the participants with a chance to express differing viewpoints. Stakeholders involved in the process included environmental groups, municipalities, developers, businesses, and the public. The North Carolina Agriculture Cost Share Program, administered by the Division of Soil and Water Conservation (DSWC), contributed $12.5 million between 1992 and 2003. Another DSWC-administered program, the federal Conservation Reserve Enhancement Program, has obligated approximately $33.1 million in the Tar-Pamlico River Basin since 1998. Between 1995 and 2003, approximately $2.67 million in Clean Water Act section 319 expenditures

supported a variety of NPS projects in the Tar-Pamlico Basin, including BMP demonstration and implementation, technical assistance and education, GIS mapping, development and dissemination of accounting tools, and monitoring. As part of the Phase I Agreement, the area's Point Source Association both contributed funds and acquired a section 104(b)(3) grant for agricultural BMP implementation. The combined total of their contributions was $850,000 in nutrient-reducing BMPs in the basin.

VII. Photos:

Provide 1-2 photos of BMPs that illustrate the project actions. Photos should be of a type that helps illustrate the problem and/or the solution. Please provide a brief caption that explains and provides the context of the illustration. Photos should be 300 dpi resolution when printed at 3" X 3". Occasionally, the contractor can utilize photos with less resolution, but if that is not possible, the story will have to be published without a photo

Example:

Weirs are low dams designed to reduce streambed erosion by flattening the slope of the channel and slowing flows. Many weirs are constructed of confined rock riprap, providing a somewhat natural look (top). Other structures are built with concrete, resulting in a more engineered look (bottom). Weirs, wetland restoration, and invasive vegetation removal helped reduce total suspended solids (TSS) concentrations in lower Las Vegas Wash and led to its removal from the Nevada 303(d) list in 2004.

VIII. Table/Graph/Chart:

If data is provided that documents improvements in water quality, please label axes, indicate water quality target/endpoints, and provide brief caption that explains the data. Please attach graphs as separate files, if possible.

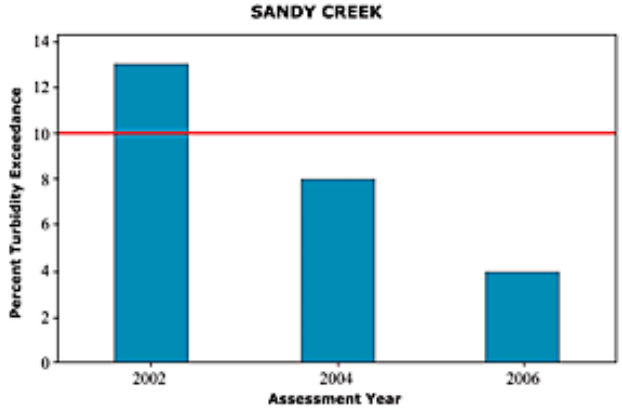
Example 1:

Chase Brook Biomonitoring Results

Sampling site	Date	Assessment rating	EPT	Density (individuals/m^2)	Individuals from *Oligochaeta* (%)
1.2	9/14/1993	Fair	15.0	357	10.6
1.2	9/20/1994	Fair	22.5	584	23.8
1.2	10/6/1998	Fair	19.0	493	11.7
1.2	9/18/2000	Very good	19.0	673	2.4
1.2	9/2/2002	Good	16.7	1253	1.4
Class B Guideline			> 16.0*	> 300	< 12.0

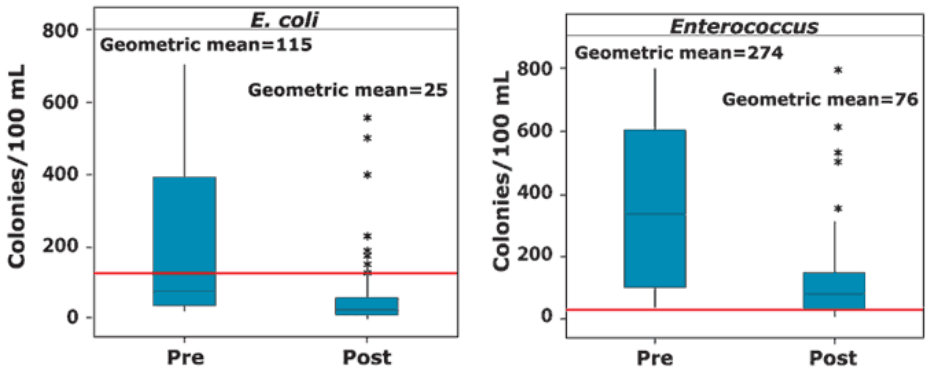
* Vermont Class B Guideline for EPT was 18.0 until the state changed it to 16.0 in 2002.

Example 2:



A stream is considered impaired due to turbidity if 10 percent or more of the seasonal base flow water samples exceed 50 NTUs (based on five years of data proceeding the assessment year). The FWP designation is now fully attained.

Example 3:



Boxplots indicate the interquartile range (25th-75th percentile) and median of the data in each of two periods: "Pre" contains data from August 1999 to January 2001; "Post" includes data from July 2001 to May 2005. The red line indicates the geometric mean above which the beneficial use is not achieved. There were significant reductions in mean levels of both *E. coli* and *Enterococcus* bacteria.

IX. Contact Information:

Provide a contact name, agency, phone, email address. Use your discretion on including a Regional, State, and/or local project contact(s).

See EPA approved Success Stories as an example

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants
Final Reporting Requirements

Appendix F

MAINTENANCE PLAN CONTENTS

All maintenance plans for Water Quality Restoration projects must include the following:

1. The name, address, and telephone number of the person or persons responsible for the preventative and corrective maintenance of each BMP. If the plan identifies a party other than the owner as having responsibility for maintenance, that is, a public entity or homeowners' association, then the plan must include a copy of the other party's written agreement to assume this responsibility.

2. Specific preventative and corrective maintenance tasks such as removal of sediment, trash, and debris; mowing, pruning, and restoration of vegetation; restoration of eroded areas; elimination of mosquito breeding habitats; control of aquatic vegetation; and repair or replacement of damaged or deteriorated components.

3. A schedule of recommended regular inspections and tasks.

4. Cost estimates of maintenance tasks, including sediment, trash, and debris removal.

5. A written record of all preventative and corrective maintenance performed.

In addition, it would be useful if the following items were also included in the maintenance plan:

1. Maintenance equipment, tools, and supplies necessary to perform the various preventative and corrective maintenance tasks specified in the plan.

2. Maintenance, repair, and replacement instructions for specialized, proprietary, and nonstandard measure components, if any, including manufacturers' product instructions and user manuals.

3. Procedures and equipment required to protect the safety of inspection and maintenance personnel.

4. Approved disposal and recycling sites and procedures for sediment, trash, debris, and other material removed from the BMPs during maintenance operations.

MAINTENANCE PLAN CONSIDERATIONS

In addition to the plan contents described above, a maintenance plan should address the following aspects of BMP maintenance:

Access

All BMP components must be readily and safely accessible for inspection and maintenance.

Training of Maintenance Personnel

Include a basic description of the purpose and function of the BMP and its major components. Outline what tasks need to be done by what personnel, how and when (*i.e.* what time of year, etc.). Training should also be provided in the need for and use of all required safety equipment and procedures.

Aesthetics

The impacts of the aesthetics on the surrounding community should be included in maintenance considerations.

MAINTENANCE PLAN PRODECURES

Once the maintenance plan is approved by the Project Manager, the following procedures should be followed:

1. Copies of the maintenance plan must be provided to the owner of the BMP, who must commit to keeping the BMP in place, and keeping the land devoted to the BMP function. Copies must also be provided to the NJDEP Project Manager for the project file and any other entity deemed necessary by the NJDEP Project Manager and/or the Grantee (*e.g.* township, mosquito control commission, etc.).

2. Any change in the name, address, and telephone number of the person or persons responsible for maintenance must be updated in the maintenance plan and requisite copies distributed per Procedure #1 above.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants
Watershed Based Plan Requirements

Appendix G

Required Nine (9) Elements of an Approvable Watershed-Based Plan

All Watershed Plans must address and include include the nine minimum components of a watershed plan set forth in the Environmental Protection Agency's "Handbook for Developing Watershed Plans to Restore and Protect Our Waters" (USEPA, 2005) in order to be considered for implementation funds through 319(h). The completed plan must include a section detailing how the plan satisfies each element. The basic components of a Watershed-Based Plan are identified as:

Element 1: Causes and Sources
Clearly define the causes and sources of impairment (physical, chemical, and biological).

Element 2: Expected Load Reductions
An estimate of the load reductions expected for each of the management measures or best management practices to be implemented (recognizing the natural variability and the difficulty in precisely predicting the performance of management measures over time).

Element 3: Management Measures
A description of the management measures or best management practices and associated costs that will need to be implemented to achieve the load reductions estimated in this plan and an identification (using a map or a description) of the critical areas where those measures are needed.

Element 4: Technical and Financial Assistance
An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement this plan.

Element 5: Information/education Component
An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing management measures.

Element 6: Schedule
A schedule for implementing management measures identified in this plan that is reasonably expeditious.

Element 7: Measurable Milestones
A schedule of interim, measurable milestones for determining whether the management measures, best management practices, or other control actions are being implemented.

Element 8: Evaluation of Progress
A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made towards attaining water quality standards and, if not, the criteria for determining whether the plan needs to be revised or, if a TMDL has been established, whether the TMDL needs to be revised.

Element 9: Effectiveness Monitoring
A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established in the Evaluation of Progress element.

a. An identification of the causes and sources or groups of similar sources that will need to be controlled to achieve the load reductions estimated in this watershed-based plan (and to achieve any other watershed goals identified in the watershed-based plan), as discussed in item (b) immediately below. Sources that need to be controlled should be identified at the significant subcategory level with estimates of the extent to which they are present in the watershed (e.g., X number of dairy cattle feedlots needing upgrading, including a rough estimate of the number of cattle per facility; Y acres of row crops needing improved nutrient management or sediment control; or Z linear miles of eroded streambank needing remediation).

b. An estimate of the load reductions expected for the management measures described under paragraph (c) below (recognizing the natural variability and the difficulty in precisely predicting the performance of management measures over time). Estimates should be provided at the same level as in item (a) above (e.g., the total load reduction expected for dairy cattle feedlots; row crops; or eroded streambanks).

c. A description of the NPS management measures that will need to be implemented to achieve the load reductions estimated under paragraph (b) above (as well as to achieve other watershed goals identified in this watershed-based plan), and an identification (using a map or a description) of the critical areas in which those measures will be needed to implement this plan.

d. An estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon, to implement this plan. As sources of funding, States should consider the use of their Section 319 programs, State Revolving Funds, USDA's Environmental Quality Incentives Program and Conservation Reserve Program, and other relevant Federal, State, local and private funds that may be available to assist in implementing this plan.

e. An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the NPS management measures that will be implemented.

f. A schedule for implementing the NPS management measures identified in this plan that is reasonably expeditious.

g. A description of interim, measurable milestones for determining whether NPS management measures or other control actions are being implemented.

h. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made towards attaining water quality standards and, if not, the criteria for determining whether this watershed-based plan needs to be revised or, if a NPS TMDL has been established, whether the NPS TMDL needs to be revised.

i. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (h) immediately above.

Additional information and guidance can be found in the EPA's "Handbook for Developing Watershed Plans to Restore an Protect Our Waters" located here : (https://www.epa.gov/sites/production/files/2015-12/documents/watershed_mgmnt_quick_guide.pdf)

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants Minimum Requirements of Lake Characterization and Restoration Plans

Appendix H

Lake Characterization and Restoration Grants Minimum Requirements

Lake Characterization and Restoration Implementation Grants are being solicited for specific eutrophic lakes for which a total maximum daily load (TMDL) for phosphorus has been prepared by the Department and subsequently approved by EPA Region 2. The DWM&S is responsible for developing TMDLs to identify all the sources of a pollutant of concern for which surface water quality standards are not being met and set load reductions needed to meet surface water quality standards. TMDLs are required, under Section 303(d) of the federal Clean Water Act, to be developed for waterbodies that cannot meet surface water quality standards after the implementation of technology-based effluent limitations.

The purpose of a lake characterization is to provide a qualitative evaluation of a lake's ecology. A Lake Characterization Plan serves as a diagnostic tool to determine the specific water quality objectives and restoration approaches needed for a particular lake to achieve a TMDL. The pollutant of concern for the eutrophic lake TMDLs is phosphorus. Phosphorus is an essential nutrient for plants and algae, but is considered a pollutant when it stimulates excessive growth of aquatic plants and algae (primary production). As these aquatic plants and algae decay, oxygen levels in a lake are depleted, resulting in possible fish kills. This process of eutrophication compromises the overall ecological health of the lake. This RFP serves to realize the implementation plan identified by the Department in each of the TMDL reports listed under Supporting Documents in the Appendix.

TMDLs alone are not sufficient to restore eutrophic lakes. The TMDL establishes the required nutrient reduction targets and provides the regulatory framework to affect those reductions. However, the nutrient load only affects the eutrophication potential of a lake. The implementation plan therefore calls for the collection of additional monitoring data to develop a Lake Characterization Plan for each lake. The plan will consider in-lake measures that need to be taken to supplement the nutrient reduction measures required by the TMDL. In addition, the plans will consider the ecology of the lake and adjust the eutrophication indicator target as necessary to protect the designated uses.

TMDLs are established based on best available information. Nevertheless, for many lakes, the TMDLs have identified the need to update loading information. For example, some of the Lake TMDL documents detail the need to establish phosphorus contributions for factors such as internal load and septic systems. Only with a comprehensive Lake Characterization Plan can the proper restoration measures be determined that, upon implementation, will achieve phosphorus reduction and reduce primary productivity.

In addition to the quarterly submittal of progress reports, the grantee should expect to make presentations to and consult with the Department and stakeholders throughout the contract period. At a minimum, this will include presentations to the Department at the midpoint and conclusion of the work period.

The grantee should incorporate the costs of monitoring (including contingencies due to, for instance, unanticipated weather events and/or drought), Quality Assurance Performance Plan preparation, travel, meetings (3 to 5) and information sharing into their contract budgets, as warranted.

In order to promote cost benefit savings grantees are encouraged if possible, to combine projects and to submit one proposal that details the requirements and budget for each individual Lake Characterization Plan. The grantee(s) are directed to incorporate findings from the approved TMDLs, Phase I Lake Diagnostic Studies, Department funded lake studies through Sections 319(h) and 604(b) funding and any other supporting lake documents into their proposals. Diagnostic-Feasibility studies were completed previously under the Department's Clean Lakes Program and may be downloaded from the New Jersey Environmental Digital Library at http://njedl.rutgers.edu/njdlib/index.cfm type in "lakes" under Quick Searches.

Lake Characterizations for which Proposals are being Requested:

Name of Lake	Watershed Management Area	County	Lake Owner
Cranberry Lake	WMA 1	Sussex County	State
Clove Acre Lake*	WMA 2	Sussex County	Municipal
Greenwood Lake*	WMA 3	Passaic County	State & Private
Verona Park Lake*	WMA 4	Essex County	County
Lincoln Park Lake	WMA 5	Hudson County	County
Overpeck Lake	WMA 5	Bergen County	County
Echo Lake	WMA 7	Union County	County
Round Valley Rec.Area	WMA 8	Hunterdon	State
Davidsons Mill Lake	WMA 9	Middlesex County	County
DeVoe Lake	WMA 9	Middlesex County	Municipal
Manalapan Lake*	WMA 9	Middlesex County	County
Topenemus Lake	WMA 9	Monmouth County	Municipal County
Deal Lake*	WMA 12	Monmouth County	Municipal & Private
Franklin Lake	WMA 12	Monmouth County	Municipal
Pohatcong Lake*	WMA 13	Ocean County	Municipal & Private
Hammonton Lake	WMA 14	Atlantic County	State & Municipal & Private
Lake Absegami	WMA 14	Burlington County	State
Sylvan Lakes	WMA 14	Burlington County	Municipal & Private
New Brooklyn Lake	WMA 15	Camden County	County
Dennisville Lake	WMA 16	Cape May County	Municipal
Lily Lake	WMA 16	Cape May County	State
Burnt Mill Pond	WMA 17	Cumberland County	Municipal
Giampietro Lake	WMA 17	Cumberland County	Municipal
Mary Elmer Lake	WMA 17	Cumberland County	Municipal
Memorial Lake	WMA 17	Salem County	
Sunset Lake	WMA 17	Cumberland County	Municipal & Private
Bell Lake	WMA 18	Gloucester County	Municipal
Bethel Lake	WMA 18	Gloucester County	
Blackwood Lake	WMA 18	Camden/Gloucester	Municipal & Private
Cooper River Lake	WMA 18	Camden County	Municipal Evans Pond/
Wallworth Lake	WMA 18	Camden County	County
Harrisonville Lake	WMA 18	Gloucester/Salem	State FG &W
Kirkwood Lake	WMA 18	Camden County	Municipal
Strawbridge Lake	WMA 18	Burlington County	Municipal
Woodbury Lake	WMA 18	Gloucester County	
Sylvan Lakes	WMA 20	Burlington County	Municipal & Private

*This lake is the subject of an existing Department funded project that includes data collection, please contact DWM to discuss what additional data is still needed to complete a lake characterization

The implementation plan therefore calls for the collection of additional monitoring data to develop a Lake Characterization Plan for each lake. The plan will consider in-lake measures that need to be taken to supplement the nutrient reduction measures required by the TMDL. In addition, the plans will consider the ecology of the lake and adjust the eutrophication indicator target as necessary to protect the designated uses.

Upon the satisfactory completion of the specific Lake Characterization Plan portion of the grant, as notified in writing by the Department, the grantee will be instructed to develop a Lake Restoration Implementation Plan. The level of characterization necessary to plan restoration of the lakeshed will be specific to individual lakes depending on the remedial options being considered, and the available data generated from the previous studies and investigations.

Data Collection:

All water quality sampling shall be performed in conformance with the Department's Surface Water Quality Sampling Monitoring Protocol, and a Quality Assurance Project Plan (QAPP) must be submitted and approved by the Department prior to the initiation of monitoring. All data should be reported in metric units. Although full development of a QAPP is not required as part of the RFP, a draft QAPP providing a detailed sampling plan, should be developed and submitted with the proposal by the RFP deadline. Refer to the format provided in Appendix.

The following lake information should be gathered, unless already available, which shall then be compiled for the Lake Characterization Plan in order to be able to develop restoration implementation component of the grant:

Basic physical characteristic of the lake:

- Bathymetric survey
- Lake area and watershed area
- Lake volume
- Depth of unconsolidated sediment

Basic Hydrologic information:

- Measurements of inflows and outflows under normal flow conditions
- Determine the hydrologic balance of the lake

Biological sampling (integrated sample from mixed surface layer), qualitative and quantitative evaluations:

- Algal abundance and composition (greens, diatoms, blue-greens)
- Algal blooms (presence, severity, extent)
- Aquatic vegetation (extent, diversity, invasive species)

- For biomass measurements - Phytoplankton as Chlorophyll *a:* Minimum of 12 samples collected over 4 sampling events (monthly); with samples taken in triplicate per event/site

In-lake water quality monitoring:

- 1-5 mid-lake sampling stations as needed to characterize the lake
- Chemistry (TP, SRP, chl-a, NO_3-N +NO_2-N, NH_4-N, TKN, alkalinity, TSS, hardness temperature, DO, pH, conductivity, etc.)
- if applicable, surface, metalimnion, hypolimnion, and bottom sampling if stratified, otherwise surface and bottom or mid-depth.
- At least 2 consecutive days of diurnal dissolved oxygen monitoring (early morning and later afternoon) and to include pH and temperature parameters (hourly throughout the day)
- Secchi depths

When necessary, flow and water quality measurements of influent and effluent streams shall be taken periodically from spring to fall. Fish abundance and composition shall be assessed early autumn.

The following parameters may be considered and included in the scope of work provided justification is given as to the value added for the particular lake:

- Vegetation mapping (for shallow lakes using shore to center transects, measuring density and composition such as emergents, rooted floaters, submergents, free-floating plants, submerged macro-algae)
- Phytoplankton- Zooplankton sampling (abundance, composition and size ranges)
- Fish species and abundance, noting age distribution

Water Quality Analysis

Due to the limitation of the available data, the Department chose an empirical model as the most appropriate means to relate annual phosphorus load and steady-state in-lake concentration of total phosphorus. The Reckhow (1979a) model was selected because the hydrologic, morphological and loading characteristics of the lakes for which TMDLs were developed for were well within the assumptions of the model and because it appeared to give the best predictive results for phosphorus concentration. Please refer to the specific TMDL Report which may be downloaded at https://www.state.nj.us/dep/wms/bears/tmdls.html for the basis and background for this model selection and application. Using the Reckhow (1979a) model, the Investigator(s) is directed to calculate all loading estimates and revise reductions given in the TMDL for the following sources, as necessary, to achieve target concentration:

- Tributaries loads
- Septic contributions
- Waterfowl
- Internal loads estimate

- Evaluate existing loading coefficients used in the lake TMDL
- Update storm water runoff contributions
- Update total phosphorus source loading
- Identification of storm water/surface water runoff "hot spots"
- Any additional source, provided that the source is more than 2% of the total loadings

Identify Load Reduction Strategies for each of the sources identified above, including but not limited to:

- BMPs—type and location and expected load reduction
- Septic systems—need for source reduction, alternatives to achieve, and expected load reductions
- Internal sources—alternatives to reduce and expected load reductions
- Biological assessments aimed at possible biological manipulation techniques
- Identify data and research gaps required to develop a lake restoration plan and account for cost

Ambient Lake Monitoring Network

Under Section 314 of the federal Clean Water Act (CWA), states are required to assess the status and trends of water quality in lakes, including classification according to eutrophic condition. As cited in each of the TMDL reports, in response to the CWA and EPA requirements, the Department's Bureau of Freshwater and Biological Monitoring (BFBM) initiated an Ambient Lake Monitoring Network program, in 2005, to provide the water quality data necessary to assess the ecological health of the State's lentic water resource. The network was probabilistically designed using all lakes, man-made or natural, wholly or partially within New Jersey's political boundaries, excepting water supply reservoirs being actively managed for potable water supply. Based on available resources, the New Jersey network was designed (with EPA assistance) to have 200 lakes total, which is a subset of the 1100 named lakes in New Jersey. Each year, a group of 40 lakes are sampled with the full network being monitored on a 5-year schedule. Having such a design has allowed New Jersey to certify to EPA that it is implementing at least one state-scale statistically valid probability survey and thus meet the performance-based standard for continued receipt of the 106 Monitoring Initiative grant funds. The general lake selection process used by New Jersey has also recently been followed nationally by USEPA for the Survey of the Nation's Lakes, in which BFBM also participated. This data may be found at https://www.nj.gov/dep/wms/bfbm/lakes.htmlto assist the grantee with preparing their proposal.

Supporting Documents

TMDL Reports

The following TMDL reports may be downloaded from New Jersey Department of Environmental Protection – Division of Water Monitoring Standards – Bureau of Environmental Analysis Restoration and Standards web page at https://www.state.nj.us/dep/wms/bears/tmdls.html

"TMDL for Phosphorus in Lower Sylvan Lake", Adopted April 10, 2002

"TMDL for Phosphorus in Strawbridge Lake, Burlington County", Adopted June 22, 2003

"Total Maximum Daily Loads for Phosphorus to Address 4 Eutrophic Lakes in the Northwest Water Region – Cranberry Lake, Ghost Lake, Lake Hopatcong and Lake Musconetcong", Approved by EPA 9/17/03

"Total Maximum Daily Loads for Phosphorus to Address 3 Eutrophic Lakes in the Northeast Water Region - Lincoln Park Lakes, Overpeck Lake and Verona Park Lake", Approved by EPA on 9/17/03

"Total Maximum Daily Loads for Phosphorus to Address 6 Eutrophic Lakes in the Raritan Water Region – Echo Lake, Davidson's Mill Lake, Devoe Lake, Manalapan Lake, Topanemus Lake and Round Valley Reservoir", Approved by EPA on 9/30/03

"Total Maximum Daily Loads for Phosphorus to Address 13 Eutrophic Lakes in the Lower Delaware Water Region – Bell Lake, Bethel Lake, Blackwood Lake, Burnt Mill Pond, Giampietro Lake, Harrisonville Lake, Imlaystown Lake, Kirkwood Lake, Mary Elmer Lake, Memorial Lake, Spring Lake, Sunset Lake, Woodbury Lake", Approved by EPA on 9/30/03.

"Total Maximum Daily Loads for Phosphorus to Address 9 Eutrophic Lakes in the Atlantic Coastal Water Region – Deal Lake, Dennisville Lake, Franklin Lake, Hammonton Lake, Hook's Creek Lake, Lake Absegami, Lily Lake, Lake Pohatcong and New Brooklyn Lake", Approved by EPA on 9/30/03.

"TMDL for Phosphorus to Address Greenwood Lake in the Northeast Water Region", Approved by EPA 9/29/04

"Total Maximum Daily Loads for Total Phosphorus to Address Four Stream Segments and Two Lakes in Cooper River Watershed, Camden County, Lower Delaware Water Region", Approved by EPA on 9/30/04.

"TMDL to Address Phosphorus in the Clove Acres Lake and Papakating Creek, Northwest Water Region", Approved by EPA on 9/30/04

Lake Support Documents

The following Lake Support Documents may be downloaded from the New Jersey Environmental Digital Library at http://njedl.rutgers.edu/njdlib/index.cfm type in "lakes" under Quick Searches. The New Jersey Environmental Digital Library uses DjVu software, which you can download for free at http://www.lizardtech.com/download/. If after reviewing both web sites and a specific lake support document is not available electronically, please contact the DWM&S at (609) 633-1441 to request a hard copy.

An Application for A New Jersey Department of Environmental Protection Lake Management Phase II-Implementation Projects for the Restoration of Blackwood Lake

Cranberry Lake Diagnostic Feasibility Study

Deal Lake Management/Restoration Plan

Diagnostic-Feasibility Study of Bell Lake

Diagnostic-Feasibility Report for Blackwood Lake

Appendix H

Diagnostic-Feasibility Study of Burnt Mill Pond

Diagnostic-Feasibility Report for Dennisville Lake

Diagnostic-Feasibility Study of Giampietro Park Lake

Diagnostic - Feasibility Study of Hooks Creek Lake: Phase I

Diagnostic-Feasibility Study of Pohatcong Lake

Diagnostic-Feasibility Study for the Sylvan Lakes Restoration Project

Franklin Lake Diagnostic Feasibility Study

Hammonton Lake Diagnostic-Feasibility Study: Final Report

Intensive Lake Survey: Echo Lakes

Intensive Lake Survey: Lincoln Park Lakes

Intensive Lake Survey: New Brooklyn Lake

Intensive Lake Survey: Sunset and Mary Elmer Lakes

Intensive Lake Survey: Topanemus Lake

Intensive Lake Survey: Verona Park Lake

Lake Restoration Feasibility Study: Hammonton Lake

New Jersey Lakes Management Program Lakes Classification Study: Bethel Lake

New Jersey Lakes Management Program Lakes Classification Study: Clove Acres

New Jersey Lakes Management Program Lakes Classification Study: Davidson's Mill Lake

New Jersey Lakes Management Program Lakes Classification Study: Kirkwood Lake

New Jersey Lakes Management Program Lakes Classification Study: Lily Lake

New Jersey Lakes Management Program Lakes Classification Study: Manalapan Lake

New Jersey Lakes Management Program Lakes Classification Study: Memorial Lake

New Jersey Lakes Management Program Lakes Classification Study: Overpeck Lake

New Jersey Lakes Management Program Lakes Classification Study: Strawbridge Lake

New Jersey Lakes Management Program Lakes Classification Study: Topanemus Lake

New Jersey Lakes Management Program Lakes Classification Study: Woodbury Lake

Phase 1: Diagnostic-Feasibility Study of Lake Absegami

Phase 1: Diagnostic-Feasibility Study for De Voe Lake Restoration Project

Phase 1: Diagnostic-Feasibility Study of Greenwood Lake, New Jersey and New York

Phase 1: Diagnostic-Feasibility Study of Round Valley Recreational Area

QUALITY ASSURANCE PROJECT PLAN (QAPP) FOR LAKE RESTORATION

Quality assurance shall be incorporated in the planning of a project. While all scientists strive to produce credible results, there is an increasing need for documenting the process of generating, analyzing and validating data. The concepts of Quality Assurance and Quality Control (QA/QC) should be familiar to all scientific disciplines. Quality Assurance (QA) is a management function that is based on review at the planning, implementation, analysis, and completion stages of data collection. Quality Control (QC) is implemented at the field/bench level and it provides details on exactly how data of a specified quality are generated.

Each Grantee should provide a quality assurance overview of what they expect to accomplish in the proposal by including a preliminary QAPP see recommended format and language provided in Appendix or through a Quality Assurance Letter. A Quality Assurance Letter may suffice for lakes that are identified with an asterisk where an existing project is currently being conducted under a Department approved QAPP. The existing QAPP should be included with the proposal.

After notification of grant award a detailed QAPP must be submitted by the grantee within one month after the notification which in turn must be approved by the Department before any work can be initiated. A Quality Assurance Project Plan (QAPP) is required for each parameter in which new data will be collected or generated.

Appendix H

Quality Assurance Project Plan (QAPP)

Lake Characterization for (name of Lake)

Prepared by: _____ Date: _____

Reviewed by: _____ Date: _____

Reviewed by: _____ Date: _____

Reviewed by: _____ Date: _____

Approved by: _____ Date: _____

Quality Assurance Officer

NJDEP, Office of Quality Assurance

Appendix H

Quality Assurance Project Plan

For (Name of Lake)

(Name of County), New Jersey

Submitted to:

New Jersey Department of Environmental Protection

Division of Water Monitoring and Standards

PO Box 420

Trenton, New Jersey 08625-0420

Submitted by:

Prepared by:

Date:

Project Name:

Project Requested by:

Project Manager:

Address:

Phone:

QA/QC Officer Name:

Address:

Phone:

Project Description:

A. Scope of Work Statement and Objectives

The specific tasks for the proposed project include (for example):

1. Update the bathymetry of the lake
2. Collect basic hydrologic information to develop hydrologic budget for the lake
3. Implement a (#) year water quality monitoring program that includes a total of (#) in-lake monitoring events
4. Quantify an annual pollutant budget, which addresses total phosphorus, total nitrogen and total suspended solids
5. Evaluate the targeted phosphorus load relative to the establishment of clear water state
6. Conduct a feasibility analysis to identify potential in-lake watershed based management techniques
7. Assess and identify site-specific phosphorus load reduction strategies

B. Date Usage (example language provided):

The data collected for Lake Characterization Plan will support the eventual development of a Lake Restoration Plan for (name of Lake) and its lakeshed.

C. Sampling Procedures (example language provided)

All sampling procedures shall be in conformance with standards limnological practices and procedures listed in "Standards Methods for the Examination of Water and Wastewater, (21st Edition)" (American Public Health Association, et al., 2005), State Protocol (NJDEP, 2005) and/or any applicable US EPA guidance document. Instrumentation used for the collection of field data (dissolved oxygen, temperature, pH and conductivity) shall be properly calibrated in conformance with manufacturer instructions. All sampling sites were chosen to be representative sites and are subject to approval by the New Jersey Department of Environmental Protection, Rutgers New Jersey EcoComplex and (name of Project Requestor).

The methodology for the biological parameters, such as chlorophyll *a*, are described in "Standard Methods for the Examination of Water and Wastewater (21st Edition)" (American Public Health Association, et al., 2005) and in "Limnological Analyses", Third Edition (Wetzel and Likens, 2000).

D. Water Quality Monitoring Parameters and Frequency

(This section would be fleshed out in detail upon approval of contract; however some description of parameters that are proposed to be collected, sampling locations, monitoring frequency and why particular parameter is being collected is warranted to support the cost and scope of the project proposal).

Note: Monitoring should reflect the actual level of work commensurate with the preparation of a Lake Characterization Plan - the use of existing data may preclude the need to collect all of the parameters listed in the parameter table below.

Parameter Table (example provided – The final table would be fleshed out in detail upon approval of contract and should be prepared in consultation with the state certified analytical laboratory that will be engaged to perform the analyses).

Parameter	Analytical Method Reference* (Standard Methods)	Sample Container and Preservation Method	Holding Time (Maximum)
Soluble Orthophosphate	4500- P E	1 pint plastic, filter, cool to 4ºC	48 hours
Total Phosphorus	4500-P B-5 and 4500-P E	1 pint plastic, H_2SO_4 added to pH <2, cool to 4°C	28 days
Total Dissolved Phosphorus	4500-P B-5 and 4500-P E	1 pint plastic, filter, H_2SO_4 added to pH <2, cool to 4°C	28 days
Nitrate-N + Nitrite-N	419D/4500 NO2B EPA 354.1/352.1	1 pint plastic, cool to 4 EC	48 hours
Ammonia - N	4500 – NH_3B	1 pint plastic, H_2SO_4 added to pH <2, cool to 4 EC	28 days
Total Kjeldahl Nitrogen	4500orgBC	1 pint plastic, H_2SO_4 added to pH <2, cool to 4 EC	28 days
Alkalinity	2320	1 pint plastic, filter, cool to 4ºC	14 days
Total Hardness	2340C	1 pint plastic, HNO_3 added to pH <2, cool to 4°C	6 months
Total Suspended Solids	2540 D	1 pint plastic, cool to 4° C	7 days
Conductivity Profile	2510 B	*in situ*	N/A
pH Profile	4500-H^+ B	*in situ*	N/A
Dissolved Oxygen Profile	4500-O G	*in situ*	N/A
Temperature Profile	2500 B	*in situ*	N/A
Chlorophyll *a*	10200 H 1 & 2	1 quart plastic, the filter in field, freeze at 20°C	N/A

* As per Standard Methods (American Public Health Association et al., 1998).

Note: Monitoring should reflect the actual level of work commensurate with the preparation of a Lake Characterization Plan - the use of existing data may preclude the need to collect all of the parameters listed in the example above.

Information on Detection Limits, Precision and Accuracy for Discrete Water Quality Parameters e.g. parameter detection limits, quantification limits, accuracy and precision – (This section to be completed upon approval of contract. A table should be prepared in consultation with a state certified licensed analytical laboratory that will be engaged to perform the analyses).

Information on Detection Limits, Precision and Accuracy for *In-Situ* Parameters (This section to be completed upon approval of contract).

Proposed Schedule of Sampling Events for the Monitoring Program of (Name of Lake)

Sampling Year	April	May	June	July	August	September

Note: Table to be completed upon approval of contract.

Chain of Custody Procedures (example language provided - This section to be finalized upon approval of contract and should be prepared in consultation with the state certified analytical laboratory that will be engaged to perform the analyses).

Chain of custody procedures will be utilized once the samples are collected and transported to the laboratory for analysis. Personnel responsible for sampling operations will inform the analytical laboratory at least (#) hours in advance of the date that the lake monitoring samples will be delivered.

The sample collector will be required to record the following information on the sampling container and field data sheets: (for example) sample number and/or station, date and time of collection, source, preservation technique and collector's name. The sample collector will also record pertinent field data, field observations and the analyses required on the field data sheets. A chain of custody form will be completed to identify the analyses requested and will be submitted to the laboratory at the time of sample delivery.

Following collection, samples will be placed on ice in an insulated container for transport to the laboratory. The sample collector or (name of person/organization) will deliver the samples to the laboratory, where laboratory personnel will visually inspect all samples containers to confirm the method transportation, date of collection and preservation techniques. Samples will not be accepted and fresh samples will be requested if for any reason the holding time was exceeded, proper preservation techniques were not followed or transportation conditions were unsuitable.

Calibration Procedures and Preventative Maintenance (This section to be finalized upon approval of contract and should be prepared in coordination with the state certified analytical laboratory that will be engaged to perform the analyses).

Field equipment will be calibrated on each sampling date in accordance with the manufacturer's instructions. Any problems will be corrected before samples are collected.

Documentation, Data Reduction and Reporting

All QA/QC data and project information will be collected according to applicable State and federal regulations. All data will be included in the final Lake Characterization Plan report and will be kept on file by the Investigator for a minimum of five years.

Data Validation

Data validation will be performed by the (name of Investigator) and will be provided with the final report. If blank contamination is found in the equipment rinse blank, all water quality data with results less than five (5) times the concentration found in the blank should flagged "B". The B qualifier indicates that the reported results may be an anomaly as a result of contamination of the blank.

Performance and Systems Audits

A. Performance Auditing (example language provided)

(Name of Lab) is certified by the State of new Jersey (certification #) to perform analyses of water samples. The laboratory participates in performance Evaluation (PE) Studies for each category pf certification and accreditation is required to pass these PE studies in order to maintain certification. The Department conducts performance audits of each laboratory that is certified or accredited.

(Name of Lab) also participated in several additional programs to ensure data accuracy. The laboratory participates in US EPA water pollution and water supply studies and the discharge monitoring report (DMR QA/QC) program.

B. Systems Auditing

The Department periodically conducts on-site Technical Systems Audits (TSA) of each certified laboratory. The findings of these audits, together with the US EPA Performance Evaluation results, are to be used to update each laboratory's certification status.

Corrective Action

The project QA Officer will ensure that all data for the project are generated in accordance with the procedures outlined in the QAPP. Quality control samples will be analyzed with each sample batch and results will be provided with the data reports. If a QC sample provides unacceptable results during and

given day, the sample analysis must be repeated for those parameters affected. All project participants will immediately report and deficiencies to the QA Officer. The QA Officer will recommend appropriate corrective action and determine the acceptability of affected data when deficiencies are noted.

The QA Officer will notify the Project Director of any unacceptable data to ensure that it is not included in evaluations of water quality for reporting purposes. The QA Officer shall notify the Project Director in writing anytime a deviation from the approved QAPP occurs. Results of all corrective actions will then be documented.

Example References

American Public Health Association, American Water Works and Water Environment Federation, 2005 *Standard Methods for the Examination of Water and Wastewater, 21st Edition*, Washington, D.C.

Maidment, D.R. 1993 *Handbook of Hydrology*. McGraw-Hill, New York

New Jersey Department of Environmental Protection and Energy, 1992. *Field Sampling Procedures Manual*, Trenton, New Jersey

New Jersey Department of Environmental Protection, March 2003. *Technical Manual for Phosphorus Evaluations for NJPDES Discharge to Surface Water Permits*, Division of Water Quality, Trenton, New Jersey

New Jersey Department of Environmental Protection (date) *Amendment to (name) Water Quality Management Plan, Total Maximum Daily Loads for (name)* Division of Watershed Management, Trenton, New Jersey

United States Environmental Protection Agency. 1980 *Clean Lakes Program Guidance Manual*. Report No. EPA 440/5-81-003. USEPA, Washington, D.C.

Wetzel, R.B. and G.E. Likens. 2000 *Limnological Analyses, Third Edition* Springer-Verlag. New York.

Division of Water Monitoring and Standards
Bureau of Environmental Analysis, Restoration and Standards

2019 Water Quality Restoration Grants Requirements for Wastewater Management Plans and Components of Wastewater Management Plans

Appendix I

Projects Solicited

The Department is requesting proposals for projects that initiate or continue the development of wastewater management plans pursuant to the Water Quality Management Planning rules at N.J.A.C. 7:15. As part of wastewater management plan (WMP) development the rule requires environmental assessment of proposed wastewater treatment and land use scenarios as key methods to protect water resources. This is accomplished by examining alternative land use development patterns and treatment technologies to minimize adverse environmental impacts associated with development. Since 2008 the Department has chosen to support the wastewater management planning effort by allocating 604(b) pass-through grant funds to counties and those municipalities who request wastewater management planning responsibility where counties rejected acceptance of the responsibility.

While the Department has previously made funds available for the development of the WMPs, the Department recognizes that due to the complexity of the WMPs, including the increased public outreach and bifurcation of the WMP development to initially focus solely on the wastewater service area designations, additional monies may be required to fully develop the wastewater management plans. In order to further assist wastewater management planning agencies in the completion of their WMPs additional funding is being made available. As such, the Department is requesting proposals for development of both full WMPs and specific analysis/plan components. The need for funding of individual WMP agencies will differ depending on the extent to which they have previously completed various WMP components and/or received prior funding.

All WMP and WMP component work products are required to be submitted as proposed amendments to the applicable WQMP(s).

Below are examples of WMP component proposals which will be considered for funding.

- Wastewater Service Area Delineation Map
- Sewer Service Area Wastewater Facilities Capacity Analysis
- Non-Sewer Service Area Nitrate Dilution Analysis
- Strategies for addressing potential deficiencies identified in the wastewater capacity and nitrate dilution analyses
- Septic Maintenance Program

Continuing WMP Development Activities

Grantees seeking additional funding to complete tasks identified in prior WMP development contracts may be considered. See specific eligible tasks below. Such proposals must provide the following information:

1) Identify the task(s) for which additional funding is being requested. Include a copy of the Close-Out Report(s) that was accepted for the prior contract work.

2) For each task in 1 above, describe any activities performed to date including percentage completed. The percentage completed would include previously funded activity as well as activity beyond that which was funded through a Department executed contract.

3) Describe, in detail, which specific activities remain to be completed within the unfinished tasks (1 above) and to which the requested funding will be applied.

4) Describe, in detail, how requested funds will be used to complete activities, including anticipated schedule and budget.

A. Wastewater Service Area map

The Department is soliciting proposals for development of the WMP wastewater service area map in areas where a WMP agency has not yet adopted such mapping under the WQMP rules adopted in October 2016.

B. Build-Out and Capacity Analysis

Urban/non-urban
In Sewer Service Area
In Non- Sewer Service Area
Appendix E & F

C. Capacity Deficiency Strategies

If a potential capacity deficiency has been identified based on the above analysis:

1. Identify and evaluate strategies for addressing capacity deficiencies in sewer service areas. Such strategies may include management approaches and infrastructure improvements. The growth trajectory for the sewer service area using population projections, number of treatment works approvals, or other indicators of the rate of development shall be considered. Strategies identified shall take into account the size of the potential deficiency and the time frame within which the estimated need is anticipated to exceed the current permitted flow.

2. In non-sewer service areas (septic areas) the local government unit shall begin work with the Department to evaluate options to address the capacity gap. Potential strategies to address the capacity deficiency can be found in the CPP which is posted on the Department website at http://www.nj.gov/dep/wrm/ .

D. Septic Management Plans

The Department is soliciting proposals for the development of septic management plans (SMP) which lay out the framework, tracking of and procedures for the routine maintenance of individual subsurface sewage disposal systems (ISSDSs) (i.e. septics $\leq$ 2,000 gallons per day) and the education of ISSDs owners. Failing or poorly maintained ISSDSs may contribute to various pollutants, including pathogens such as fecal coliform in both surface and ground waters. Fecal coliform is both an environmental and a public health concern, and levels of this pathogen indicator are being monitored in many areas of the State.

The SMP must contain, at a minimum, the following:

1. An inventory/tracking database to document all ISSDS within the plan area. The inventory will include, at a minimum: the name and address of the property owner/person responsible for the ISSDS; street address, municipality and Block/Lot of property with septic; date of last notification to property owner; date of last inspection; name of inspector; date of last pump-out; name of hauler; date next notification is to be sent, system size/what is served, type, age and performance history of the system. The inventory database developed must be submitted.

2. Identification of how the ISSDS inventory will be initially developed and identify the mechanism(s) that will be utilized to obtain this information such as the local authority designated under N.J.A.C. 7:9A (aka Chapter 199) records, tax records, sewer bills, registration form, local permit. If development of the inventory is to be phased, an initial phase inventory must be submitted with a timeline as to when the remainder of the inventory will be populated.

3. Identification of how the ISSDS inventory will be updated over time as septics are constructed or come off line. Identify the mechanism(s) that will be utilized to obtain this information such as construction permits, property sale records, sewer connection approvals, etc.

4. The identification of all parties involved in the development, operation, maintenance and enforcement of the SMP specifying their specific roles and responsibilities. Identify the agency(ies) responsible for creating the ISSDS inventory, maintaining the inventory, sending notification to the property owners and enforcement of non-compliance by property owners. Resolutions acknowledging their role and responsibilities are to be provided from each applicable entity (e.g. Board of Chosen Freeholders, municipal governing body).

5. Provide the method and frequency at which notifications will be sent to the septic owner. Identify the timeframes for development of the notification documents (letters, postcards, etc). Specify the method of delivery of the notifications (mass mailings, inclusion with tax bill, etc). Identify if the notifications will be sent in a single bulk mailing or in a rolling process (e.g. a certain percent sent on a monthly or quarterly basis). Specify the method of verification that the maintenance occurred which will be accepted (e.g. certification/return forms, receipts, etc).

6. An education/outreach component that identifies the public education and outreach measures to be taken to inform the stakeholders, system owners, and the public about the importance of ISSDS maintenance. The outreach component should specify how the septic owners will be informed of the new requirements (e.g., mass mailings, local programs) including what maintenance measures are required and the schedule of required maintenance/pump-out schedule. <u>The education/outreach component must be in addition to the triennial notification of proper operation and maintenance practices required by N.J.A.C. 7:9A-3.14.</u>

7. A schedule for implementing the management measures identified in the plan. If municipal septic management ordinance adoption is part of the process identify the schedule for introduction and adoption of the ordinances. If the Department-provided model Septic Management ordinance is not being utilized, a draft of the proposed ordinance must be provided for Department review.