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AMESBURY CITY CLERK

CITY OF AMESBURY
IN THE YEAR TWO THOUSAND SEVENTEEN

SPONSORED BY: _____ **BILL No. 2017-026**
C. Kenneth Gray, Mayor

An Order to appropriate $128,667 from Free Cash for mitigation of cyanobacteria in Lake Attitash.

Summary: This order will provide funding for Amesbury's share of a $242,040 local match as part of a regional private-public partnership between Amesbury, Merrimac, and the Lake Attitash Association aimed at obtaining a $363,060 federal s.319 grant through MA DEP. The total sum of $605,100 would fund an alum treatment that could successfully reduce cyanobacteria blooms in Lake Attitash for as long as 20 years, research suggests.

Be it Ordered by the City Council of the City of Amesbury assembled, and by the authority of the same, as follows:

That $128,667 is hereby appropriated from Free Cash for mitigation of cyanobacteria in Lake Attitash.

RESPONSE FORM
319 NONPOINT SOURCE POLLUTION GRANT PROGRAM
4/01/16
BRP-RFR-2016-08-319
Administrative Summary

{PRIVATE }**RESPONDENT –City of Amesbury**

Address -39 S. Hunt Road, Amesbury, MA 01913

Telephone - 978-388-8116 **Facsimile -978-388-1769** **Email Address –rob@amesburyma.gov**

PROJECT TITLE – Internal phosphorus load inactivation to complete nutrient management plan for Lake Attitash

WATERSHED(S)/SUBWATERSHED(S) SERVED BY THIS PROJECT - Merrimac

PROJECT TYPE(s) - see Section 3. A response may encompass more than one project type.

- **X A. Implementation** TMDL **X** Category 4a or 5 other
  - **X Continues the work commenced under publicly funded program(s)**
- **B. Healthy Watersheds**
- **C. Outreach and Education**
- **D. Stormwater Utility Development**

POLLUTANT(S) OF CONCERN: Phosphorus, with resulting toxic cyanobacteria blooms

AMOUNT OF FUNDING REQUESTED AND AMOUNT AND PERCENT OF MATCH FUNDING PROPOSED -

Federal Funds via MassDEP	$ 363,060	
Non-Federal Match	$ 242,040	% of Total Budget 40
Total Project Budget	$ 605,100	

PROJECT SUMMARY/OBJECTIVES – Work over the last 15 years has reduced external loading of phosphorus to Lake Attitash, but internal loading remains a major contributor and prevents attainment of water quality commensurate with use designations (see Watershed Based Plan). Aluminum compounds will be applied to sediments exposed to anoxia each summer, an area of 194 acres out of the total lake area of 360 acres, at a dose of at least 40 g/m^2. The objective is to reduce internal loading by at least 70%, lowering the projected summer phosphorus concentration to 16 µg/L and shifting N:P ratios such that cyanobacteria blooms will cease. While watershed management through town and association programs will continue, inactivation of the internal load is the last element of an overall management plan necessary to meet use goals. Monitoring will be conducted by town and/or association members as part of an outreach program, allowing documentation of improvement and fine tuning of future management efforts.

PRINCIPAL CONTACT (Project Manager)

Robert Desmarais, PE, Director of Public Works — rob@amesburyma.gov

Name and Title — Email

( ) _____ ( ) _____

Telephone — Facsimile

AUTHORIZED SIGNATORY - All respondents must complete, execute and return the **CONTRACTOR AUTHORIZED**

SIGNATURE VERIFICATION FORM attached to this RFR (see Attachment A).

RESPONSE
319 NONPOINT SOURCE POLLUTION GRANT PROGRAM
4/01/16
BRP-RFR-2016-08-319
Implementation Project Description

CONCISE STATEMENT OF THE PROBLEM

As a secondary water supply and major recreational resource, minimization of cyanobacteria blooms in Lake Attitash is very important. The lake has experienced numerous advisory warnings of high levels of cyanobacteria. From 2009-2012 the lake experienced more than a dozen advisories recommending no contact with the lake. Several of these blooms occurred when the lake was used for drinking water or was flowing water into the drinking water supply.

The problem is excessive phosphorus (P) in the water column of Lake Attitash despite major efforts in the watershed to lower inputs. The cause has been identified in the accompanying 2016 WRS report as internal loading of P from iron complexes in sediment exposed to anoxia, mainly during summer. Internal loading contributes at least 40% of the annual total P load, with most of that delivered during summer, making it the dominant source of P during the growing season. A related issue is the likely development of cyanobacteria at the sediment-water interface using P available in that zone, with synchronous rise in the water column to form blooms. In this manner, internal P reserves can foster algae blooms even with low P in the upper water column. Further watershed management cannot achieve the load necessary to meet water quality objectives and prevent cyanobacteria blooms on its own; an in-lake action is necessary to adequately reduce P concentrations, reduce cyanobacteria, and increase water clarity. Reduced algae production will also lessen the oxygen demand in deep water and may improve oxygen enough to support the desired fish community.

PROJECT GOAL(s)

The goal of this project is to inactivate P in surficial sediment over the 194 acres of Lake Attitash where anoxia occurs. This inactivation will minimize internal loading and lead to major reduction in P concentration in the water column during the growing season, with a commensurate increase in N:P ratio. It will also limit the availability of P to cyanobacteria growing on the sediment which can later rise to generate blooms. Treatment of surficial sediment will lead to decreased algae biomass overall and much reduced cyanobacteria abundance, which in turn will increase water clarity and deep water oxygen levels.

TARGETED POLLUTANT(S) AND WATERBODY(S)

Phosphorus is the targeted pollutant and Lake Attitash is the targeted waterbody.

ESTIMATED QUANTITY OF POLLUTANT(S) TO BE REMOVED

The current internal P load is estimated at 117 to 235 kg/yr out of a total load of 295 kg/yr. The higher value is based on measured release rates and accumulation in the hypolimnion. As much as half of that P may never reach the epilimnion, at least not during summer, but a minimum of 117 kg/yr reaching the upper waters is attributable to internal loading from iron-P complexes exposed to anoxia. The proposed project will reduce that load by at least 70%, equating to 82 kg/yr. As much as a 95% reduction may result for the entire measured release of 235 kg/yr, equating to a reduction of 223 kg/yr. Internal loading is the single largest P source to Lake Attitash, is disproportionately important during summer, and its reduction will have the greatest impact on water quality in the lake. Inactivation of surficial sediment P in the targeted area would lower the total P load to an acceptable level with no additional watershed actions.

PROJECT STRATEGY

This project involves the 3 key aspects of lake management: technical approach, economic support, and institutional support. The technical approach is a proven methodology with an excellent track record in Massachusetts, inactivation of P with aluminum compounds. The background work has been done to provide the minimum dose necessary to meet load reduction and related water quality goals. Economic support involves lining up the funding to pay for the treatment, and institutional support focuses on acquisition of permits and organization of all parties for successful implementation and monitoring of results.

Specific steps and responsibilities include:

1. Funding of actual treatment – Towns of Amesbury and Merrimac, LAA, and MA DEP through the Sec 319 program.
2. Supplemental sampling and final dose and treatment zone determination – LAA through its consulting team, which will include DWBE and DMBE firms.
3. Permit applications, hearings and receipt of Orders of Conditions and License to Apply Chemicals - LAA through its consulting team.
4. Application of aluminum compounds – by a contractor under town contract.
5. Pre- and Post-treatment monitoring – LAA with support from consultant team, as part of an education and outreach program.

Letters of support from Amesbury, Merrimac and the LAA are attached.

NPDES STATUS

The project is fully in an area covered by NPDES storm water provisions, but all key watershed activities have been completed and this work is not required to meet any NPDES permit provision. The proposed project is clearly a nonpoint source control effort, not subject to NPDES storm water regulation, but expected to achieve water quality compliance and facilitate the lake meeting use goals as a back-up water supply, recreational facility, and aquatic habitat.

MILESTONES

This is a very straightforward project. Once funding is obtained, the following milestones would be sequentially reached, culminating in goal achievement.

1. Supplemental sampling and final dose determination for treatment zones – December following funding guarantee.
2. Permit acquisition – Orders of Conditions received from Amesbury and Merrimac, License to Apply Chemicals received from MA DEP – March of treatment year.
3. Application of aluminum compounds – April/May of treatment year (September/October as a secondary option).
4. Pre- and Post-treatment monitoring – March-September of treatment year, June-September of year after treatment with April or May treatment. Could do June-Sept of treatment year and June-Sept of year after treatment with a Sept/Oct treatment.

ACTIVITIES

Activities closely track the milestones above and consist of the following tasks.

1. Sediment cores will be collected and tested for iron-bound P and response to aluminum addition (lab assays) to expand on current knowledge of the distribution of P over the target treatment area. Any areas with

distinctly different treatment needs will be identified and delineated. Appropriate doses will be assigned. At this point, there is one 20 ac area that appears to need a higher dose, while the remaining 174 ac are expected to receive a dose of 40 g/m^2.

2. Notices of Intent will be filed with each town, hearings will be held, and it is expected that Orders of Conditions under the Wetlands Protection Act will be issued. Those Orders are then provided to the DEP with an application for a License to Apply Chemicals, meeting both state and federal permitting needs.
3. Aluminum application would be by a contractor with oversight from a consultant with support from the LAA as part of its education and outreach program. Application will take about 3 weeks and would ideally occur in April or May, with the Sept/Oct period as a back up.
4. Pre- and post-treatment monitoring will involve sampling the lake at the surface and bottom for P plus algae and water clarity from the surface. Monitoring will be part of an education and outreach program, conducted at least in part by citizens but supported by technical consultants through the LAA. There is also compliance monitoring during the treatment, but this will be done professionally to ensure treatment adheres to regulatory stipulations and avoid adverse impacts.

PROJECT EVALUATION -ENVIRONMENTAL INDICATORS

Project success will be evident shortly after aluminum treatment but will be documented in the following summer under the grant and beyond as part of the LAA program. P concentrations averaging <16 µg/L, algae biomass <3000 µg/L, and water clarity >3 m are expected. An increase in deep water oxygen is also expected, but as settling algae represent only part of the oxygen demand, there may be still be low oxygen near the sediment-water interface.

OUTREACH-TECHNOLOGY TRANSFER

While this project is an in-lake activity representing the last element of an overall lake management project, watershed management remains important to protect the investment made thus far in Lake Attitash. Residents will be educated through the LAA about residential practices to reduce nutrient loading to the lake. LAA members will also participate in monitoring, collecting the samples and making field measurements to document achievement of goals. Professional support will be provided, but this is a program in which citizens can be involved and gain an appreciation for the process and its results.

RESPONSE
319 NONPOINT SOURCE POLLUTION GRANT PROGRAM
4/01/16
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Scope of Services

A brief descriptive statement for each task/activity to be completed under the project is provided here, with product(s) and cost estimates for each task.

TASK/OBJECTIVE #1: Project Evaluation:

We expect a minimum of 82 kg P/yr to be removed, leading to an average P concentration <16 µg/L, phytoplankton biomass <3000 µg/L with no dominance by cyanobacteria, and water clarity >3 m. To the extent that the MassDEP 319 Programmatic QAPP covers these critical measures, it will be followed. If necessary, an individual Quality Assurance Project Plan will be prepared. This is a necessary component of the proposed work, as the aluminum treatment is expected to cause rapid and lasting change in conditions. Modeling has already been done to demonstrate expectations; these measures will clearly document improvement.

Compliance monitoring during the treatment, providing competent oversight and environmental protection in accordance with expected permit conditions, would be covered by this task.

Monitoring for total phosphorus, algae and water clarity will be conducted prior to and after treatment. Considerable data have already been collected. Volunteer monitors will be trained and participate as part of Education and Outreach, Task 5. Actual post-treatment monitoring will be conducted monthly from May-September in the year of treatment and the year after treatment.

This task also covers up front aid in project planning, possibly provided by consultants but counted as part of in-kind contribution.

DELIVERABLES: Draft and final QAPP, monitoring program data tables and graphics.

ESTIMATED COST: $24,600 s.319 SHARE: $14,760 NON-FEDERAL MATCH SHARE AND SOURCE: $9840

TASK/OBJECTIVE #2: Supplemental sampling and dose determination

10 samples of surficial bottom sediment will be collected and tested for iron-bound P. Subsamples will be subjected to laboratory aluminum assays at mimicked doses of 40, 80 and 100 g/m^2. The appropriate dose for the area represented by each sample will be set based on effectiveness and diminishing returns on P binding by aluminum, and a map of treatment zones and corresponding doses will be generated. At this time, there is a 174 ac area that should receive a dose of at least 40 g/m^2 and a 20 ac area that should get a 100 g/m^2 dose. We hope to refine zones and doses through this process, but will work within the treatment budget to accomplish goals.

DELIVERABLES: Map of treatment zones with appropriate doses, suitable for use by contractor to conduct the treatment.

ESTIMATED COST: $7500 s.319 SHARE: $4500 NON-FEDERAL MATCH SHARE AND SOURCE: $3000

TASK/OBJECTIVE #3 : Permit acquisition

A Notice of Intent must be prepared for each town (Amesbury and Merrimac) and go through the hearing process to obtain Orders of Conditions, the permit that allows the proposed treatment under the Wetlands Protection Act. The Orders of Conditions are then sent with an application to the MA DEP for a License to Apply Chemicals, which further permits the project and covers the federal NPDES requirement. As the treatment exceeds 80 ac, some additional federal involvement is expected, but is part of this process.

DELIVERABLES: Notice of Intent and application for a License to Apply Chemicals, submitted to the proper agencies, with issuance of Orders of Conditions and the License to Apply Chemicals

ESTIMATED COST: $10,000 s.319 SHARE: $6000 NON-FEDERAL MATCH SHARE AND SOURCE: $4000

TASK/OBJECTIVE #4: Aluminum application

Actual application of aluminum compounds to Lake Attitash will be peformed by a contractor under the issued permits. Aluminum will be applied at the specified dose to each delineated target zone, with an expected total treatment area of 194 ac.

DELIVERABLES: Completed treatment with a treatment report, detailing amounts applied, locations, treatment conditions, and initial results.

ESTIMATED COST: $542,000 s.319 SHARE: $325,200 NON-FEDERAL MATCH SHARE AND SOURCE: $216,800

TASK/OBJECTIVE #5 : Education and Outreach

The LAA will hold a workshop for lake management prior to the treatment, to educate area residents on best property management practices for minimizing impact on the lake, to describe the actions taken to date in the watershed and how these might translate to private properties for those willing to do more, and to explain how the aluminum treatment works. There will be a monitoring training session which will also contribute the pre-treatment monitoring, building local capacity to perform the follow up monitoring.

DELIVERABLES: Workshop materials to be given out, summary of workshop (attendance, program, accomplishments)

ESTIMATED COST: $6000 s.319 SHARE: $3600 NON-FEDERAL MATCH SHARE AND SOURCE: $2400

TASK/OBJECTIVE # 6: Operation and Maintenance Plan

There is no operation or maintenance for a one-time aluminum treatment; once completed under Task 4, there is nothing to operate or maintain. There is monitoring, covered under Task 1.

DELIVERABLES: None

ESTIMATED COST: $0 s.319 SHARE: $0 NON-FEDERAL MATCH SHARE AND SOURCE: $0

TASK/OBJECTIVE #7 : Reporting

Quarterly progress reports, a treatment report, draft final report, and a final report will be produced. Quarterly reports will be in the prescribed fashion for MA DEP 319 and 604b programs. The treatment report will summarize the actual treatment process, providing amounts of aluminum added, locations treated at what dose, and initial results. The draft final and final report will include a review of pre-treatment data, actions that were taken in the watershed prior to aluminum treatment, the actual aluminum treatment, and post-treatment data, with a complete evaluation of whether or not the treatment completed the management program and met all goals. Any additional actions to improve or protect Lake Attitash will be included.

DELIVERABLES: Quarterly reports, a treatment report, a draft final report and a final report.

ESTIMATED COST: $15,000 s.319 SHARE: $9000 NON-FEDERAL MATCH SHARE AND SOURCE: $6000

RESPONSE
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Project Budget

This budget is for response evaluation purposes. Use the whole dollar method. Indicate which items will be paid for by s.319 funds, and which will be paid for by the non-federal match. Attach additional pages as required. Grant administration costs cannot exceed 10% of the grant award.

{PRIVATE } Expense Items	s.319 Amount	Non-Federal Match and Source	Total Amount
Salary - By Title and salary range *(ex.: Engineer, $40-50/hr)* This is for charged expenses by the grantee (LAA, either town, whoever is actually applying). Include in-kind services here, which I estimated to include volunteer time at $25/hr for 408 hr, or $10,200 as part of Tasks 1, 3 and 5). I would make this all non-federal match. If there are applicant costs, like town admin, that is additional but not really included in my cost estimates in the Scope of Service. You will have to adjust all in that case, and it can get complicated. You might put 5% increase on everything for grant admin, then make it in-kind service to get that part up, but it increases total cost. A lot of games can be played, but not my place to play them.		$10,200 (Volunteers at $25 for 408 hr) – in-kind service from LAA 180 hr monitoring, 40 hr permitting, 88 hr outreach, 100 hr reporting	10,200
Subcontractual Services This is most of the cost – actual treatment at $542,000, with about half as chemical cost and half as labor, with very few choices and no in-kind service or MBE/WBE participation to be had. This is a problem, as it leaves fewer $ to be devoted to those other necessary components, but a waiver can be had on solid grounds	$363,060	230,340 (mix of towns and LAA) (All DMBE and DWBE $ will be subcontract services)	593,400
Materials and Supplies (including printing, mailing - should include cost for printing 5 copies and two CDs of the final project report, with photographs) Only need about $1000 for this, to include printing for Ed & Outreach and reports, Secchi disks and samplers.		$1000 - LAA	1000
Travel (for auto mileage only @ $.45 /mile) Only need about $500 for this, trips to lab, workshop travel, could all be non-federal match and some is possible in-kind service		$500 - LAA	500
Other			
Totals:	$363,060	$242,040	$605,100

REQUIRED: SOURCE(S) OF NON-FEDERAL MATCH - List all sources of non-federal match funds and the amount of matching funds being contributed by each source. Letters of support from all organizations (on the organization's letterhead) identified as providing a portion of the non-federal match for the project **must be submitted with the**

response. These letters must detail the match to be provided by the organization, and must be signed by an authorized signatory for the organization.

EEO/AA REQUIREMENTS - Identify all budget categories from which it is anticipated that the DBE participation goals will be met. Show the anticipated dollar amount of DBE participation in each budget category.

RESPONSE
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Project Milestone Schedule

Provide a time-line by "xing" out the duration of the task activity. Use additional pages as necessary. Presume a February 1, 2017 Notice to Proceed.

{PRIVATE }MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TASK #1 Evaluation	x	x	x	x	x	x	x	x							x	x	x	x	x					
TASK #2 Suppl. samples	x																							
TASK #3 Permits	x	x	x																					
TASK #4 Al applied				x																				
TASK #5 Ed & Outreach			x		x	x	x	x							x	x	x	x	x					
TASK #6 Op/Maint	N/A																							
TASK #7 Reporting			Q1		Trtmt rpt	Q2			Q3			Q4			Q5			Q6			Draft			Final

ATTACHMENT B

PROPOSAL CHECKLIST FOR FFY 2017 NONPOINT SOURCE COMPETITIVE GRANTS

Use this checklist when reviewing the proposal package to ensure that it meets the minimum format requirements.

COMPLETED ADMINISTRATIVE SUMMARY

- ❑ Applicant and contact information
- ❑ Project Title
- ❑ Watershed(s)/Subwatershed(s) served by this project
- ❑ Project type(s)
- ❑ Amount of funding requested
- ❑ Details, amount, and percent of match funding proposed
- ❑ Project summary/objectives
- ❑ Principal contact name and contact information
- ❑ Authorized Signature

PROJECT DESCRIPTION

- ❑ Concise statement of the problem
- ❑ Targeted pollutant(s) and estimated pollutant removal (implementation projects)
- ❑ Project goals(s)
- ❑ Project strategy
- ❑ Milestones
- ❑ Activities
- ❑ Project evaluation - environmental indicators
- ❑ Outreach - Technology transfer

SCOPE OF SERVICES

- ❑ Objectives/tasks
- ❑ Deliverables
- ❑ Estimated costs

PROJECT BUDGET

PROJECT MILESTONE SCHEDULE

PROPOSAL ATTACHMENTS

- ❑ Proposal backup data
- ❑ Conceptual design(s)
- ❑ Maps, locus and BMP location(s)
- ❑ Letters of support from all organizations providing match funds
- ❑ Documentation of property ownership and permission for BMP installation
- ❑ Statement of Qualifications, resumes of key personnel

CONTRACTUAL FORMS

- ❑ Written Statement of Intent acknowledging the obligation to meet or exceed fair share goals
- ❑ An executed Equal Opportunity/Affirmation Action Policy Statement
- ❑ Commonwealth Terms and Conditions
- ❑ Standard Contract Form
- ❑ Contractor Authorized Signature Verification Form and authorization documentation
- ❑ Consultant Contractor Mandatory Submission Form (Required only for Private Organizations)
- ❑ Completed and signed W-9 Form

319 NONPOINT SOURCE POLLUTION GRANT PROGRAM

4/01/16

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Required Response Attachments

1. **DATA**. Attach any backup data that is believed necessary to support and clarify the response, including maps of the project area: at minimum, a locus map of the watershed and a site map showing each specific BMP location, in sufficient detail to defend the feasibility of the BMP(s). If extensive backup data is to be submitted with the response, a summary of the data will facilitate the review of the response; in this case, you may wish to provide only one copy of the complete report or data, and a summary in each proposal copy. If by-laws, regulations, policies, ordinances, and/or enforcement mechanisms are proposed as part of the project, a preliminary plan of how these mechanisms will be developed and implemented is required as part of the response. If structural BMPs are proposed as part of the project, at a minimum conceptual design(s), specific site location(s), and estimated cost of the BMPs are required as part of the response.

2. **MATCH DOCUMENTATION**. Letters from all organizations identified as providing a portion of the non-federal match for the project, detailing the amount and source of the match to be provided by the organization. Such letter(s) must be on the organization's letterhead and signed by an authorized signatory for the organization. If up-front match is proposed, provide additional detail to document the timing of the up-front match and its exact relationship to the proposed project work.

3. **QUALIFICATIONS.** A statement of the applicant's qualifications, and their subcontractors' qualifications where appropriate, to perform the proposed project. Such statements should include resumes of key personnel and examples of similar work, if available.

4. **AFFIRMATIVE ACTION DOCUMENTS**. Appropriate Affirmative Action Documentation - for all responses, an executed Equal Opportunity/Affirmative Action Policy Statement.

5. **DBE DOCUMENTATION**. Appropriate Fair Share DBE Documentation - a written **Statement of Intent** (example in Attachment C) which clearly acknowledges the respondent's commitment to meet or exceed the "Fair Share" participation requirements and the identified budget categories and dollar amounts that the applicant anticipates will be used to meet the requirements

6. **COMMONWEALTH TERMS AND CONDITIONS** and **STANDARD CONTRACT FORM** (see Section6). If the respondent has already executed and filed the Commonwealth Terms and Conditions, please indicate this in your response. The Commonwealth Terms and Conditions shall be incorporated by reference into any Contract for Commodities and Services executed pursuant to this RFR.

7. All respondents must complete, execute and return the **CONTRACTOR AUTHORIZED SIGNATURE VERIFICATION FORM** (see Section 5). As described on the Form, this may also include separate documentation of the signatory's authorization to sign contracts on behalf of the applicant (i.e., a letter from the Town Clerk or Selectmen attesting to the authority of the individual to sign the contract; a section of the organization's charter or enabling legislation granting that authority; or similar).

8. Except for entities that are already on file, all respondents must complete, execute and return the **VERIFICATION OF TAX REPORTING INFORMATION (W-9) FORM** (see Section7).

9. All private organizations responding to this RFR must complete and return the **CONSULTANT CONTRACTOR MANDATORY SUBMISSIONS FORM** (see Section 5).

ATTACHMENT C

EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION FORMS and GUIDANCE

Equal Employment Opportunity/Affirmative Action Requirements for Proposals
Utilization of DBEs under the Federal Grant
Guidance for EEO/AA Policy Statement
Sample EEO/AA Policy Statement
Sample Statement of Intent

Additional details and breakdowns are not part of application, but addressing questions raised and issues of which WRS is aware, the information below is provided. Read carefully.

Overall budget and breakdown: The total value of this project as currently envisioned is $605,100, spread over 6 active tasks (one, #6 on maintenance, does not apply, so it is functionally 6 tasks with 7 tasks listed), and split on a 60:40 basis between DEP and all local parties ($363,060 from DEP via Sec 319 and $242,040 from other sources). Of this $542,000 is the actual treatment, and would be contracted to a reputable vendor. SOLitude is most likely, with an outfit out of Nebraska as the only other likely bidder I know of and probably not competitive at that distance. There is very little cushion in this estimate; assume it will all go to the contractor for treatment, which is what we want this grant to accomplish. That leaves 63,100 for everything else. The application assumes $10,200 of in-kind service by the LAA or towns, leaving $52,900. Subtracting a nominal $1500 for supplies and mileage, that leaves $51,400 for contractual services beyond the application contractor.

Non-application contractual services: $51,400 is allocated for pre-treatment evaluation and fine tuning of the dose, permitting, monitoring and reporting. The DWBE/MBE requirement is 7.2% overall, or $43,567, so there is enough to meet that requirement if all but about $8000 of services are offered by firms in those categories. A DWBE qualified to do or supervise the pre- and post-treatment monitoring is not far away (ARC of Ashburnham, MA). A DMBE lab to do the actual testing would be the best way to meet that part of the requirement, as lab testing is needed and is part of that $50,600 pool. It may not be possible to meet the DWBE/MBE target if certified firms cannot provide what is needed, but a waiver could be granted if a good faith effort is made. While the exact expenses never match the budget exactly, an approximate breakdown of the needs within this additional group of services is as follows:

Task 1. Project evaluation- Total $ = 24,600, DEP @ $14760, Local @ $9840

- Aid in project set up, budgeting, coordination - $4840, counted as local share (to WRS?)
- QAPP development or refinement from existing documents - $3000
- Pre-treatment water sampling and field measurements (3 monthly trips, collect water for TP and algae, measure Secchi transparency) – prep and support with one trip by consultant to work with LAA volunteers @ $2000
- Pre-treatment water testing (16 samples for total P, 8 samples for algae) - $700 TP, $800 algae
- Compliance monitoring during treatment - $4500
- Post-treatment water sampling and field measurements – one trip by consultant to work with LAA volunteers @ $1500
- Post-treatment water testing (24 samples for total P, 12 samples for algae) - $1060 TP, $1200 algae

In-kind volunteer service at 180 hr @ $25/hr + $500 travel = $5000
Non-DBE $ = 4840, likely to be counted as in-kind service toward local share (brings task local share to $9840 to match task write up)
Possible DWBE $ = 11,000
Possible DMBE (lab) $ = 3760
Note that DWBE/DMBE totals to $14,760, the DEP share for this task.

Task 2. Dose refinement – Total $ = 7500, DEP @ $4500, local @ $3000

- Pre-treatment sediment sampling (10 surficial sediment samples) - $2000
- Pre-treatment sediment testing (10 sets of sediment tests) - $3500

- Dose calculations and treatment planning - $2000

No in-kind service likely.
Possible DWBE $ = 4000
Possible DMBE (lab) $ = 3500

Task 3. Permitting- Total $ = 10,000, DEP@$6000, local @$4000

- Prepare NOI, attend Conservation Commission hearings in 2 towns - $8500
- Prepare License to Apply Chemicals - $500

Abutter notification done by volunteers for 40 hr @ $25/hr = $1000.
Contracted $ = 9000 (not likely to be ARC as DWBE, could be a DMBE if one can be found)

Task 4. Application – Total $ = 542,000, DEP@$325,200, local@$216,200
All contracted to applicator for chemicals, treatment labor and related costs. No in-kind, no DWBE/DMBE share likely.

Task 5. Education and Outreach – Total $ = 6000, DEP@$3600, local@$2400

- Arrange for citizen workshop to include watershed management and monitoring training - $1000
- Conduct workshop - $5000 (incl. $800 for materials)

In-kind volunteer service at 88 hr @ $25/hr = $2200 (assumes presentation in watershed mgmt. part)
Materials = $800 (can include facility rental, printed materials)
Possible DWBE/DMBE $ = 3000

Task 6. Reporting – Total $ = 15,000, DEP@$9000, local@$6000

- Quarterly progress report - $2000
- Prepare draft report – $10,000
- Finalize report - $3000 (incl. $300 for copies)

In-kind volunteer service at 100 hr @ $25/hr = $2000 (for progress reports, or can contract out)
Possible DWBE or DMBE $ = 12,700
Materials $ = 300 (for report copies and related support)

What the DWBE could do: Aquatic Restoration Consulting (or another firm of your choosing) could prepare the QAPP ($3000), train volunteer monitors and assist in monitoring and data management as needed ($3500), provide pre-treatment sediment sampling and dose refinement ($4000), provide compliance monitoring services ($4500), help with education and outreach ($3000) and prepare the report ($12,700). ARC would probably not do the permitting and would not provide the actual lab services. The amount of money potentially allocated here is $30,700. The federal target is 3.8%, or 22,994, so the allocation more than meets the goal and some of these funds could be used for a DMBE if an appropriate one can be found or for WRS to help with the project (see below).

What the DMBE could do: Assuming a lab DMBE can be found that can do the needed testing, allocated lab $ total to $7260, short of the 3.4% federal goal, or $20,573, but a good start. Up to $7700 could be moved from the DWBE allocation if a DMBE firm can be found to provide those services. Permitting support of up to $9000 could go to an appropriate DMBE firm. It is very unlikely that one DMBE firm could do all of the tasks embodied here to reach the 3.4% target, and we have had difficulty finding DMBE firms that can participate meaningfully in this type of project. A waiver may be needed.

What WRS could do: Virtually all tasks allocated to non-lab DMBE or DWBE firms could be done by WRS, but an effort must be made to use DWBE and DMBE firms, and at least the DWBE target can be met. WRS

would be best positioned to provide initial project development support ($4840) and permitting support ($9000), and can fill in on any of the potential DWBE tasks described above as warranted.

What volunteers can do: Volunteers are expected to participate in monitoring ($5000), permitting ($1000), education and outreach ($2200), and reporting ($2000) for a total of $10,200 based on an hourly rate of $25/hr.

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Author: Ken Wagner
Keywords:
Comments:
Creation Date: 3/7/2017 2:11:00 PM
Change Number: 3
Last Saved On: 3/7/2017 2:47:00 PM
Last Saved By: Robert Desmarais
Total Editing Time: 1,333 Minutes
Last Printed On: 3/9/2017 2:37:00 PM
As of Last Complete Printing
Number of Pages: 17
Number of Words: 5,032 (approx.)
Number of Characters: 28,689 (approx.)