

**WATER QUALITY MANAGEMENT PLANNING GRANTS**

**604(b) PROGRAM, FEDERAL FISCAL YEAR 2015**

**Administrative Summary**

**RESPONDENT: Town of Monterey (Attention Scott Jensen)**

**Address: Board of Selectmen  
Town Hall, 425 Main Road  
P.O. Box 308  
Monterey, MA 01245**

**Telephone: 413-528-1443**

**Facsimile: 413-528-9452**

**Internet: [http://www.montereyma.gov/Public\\_Documents/index](http://www.montereyma.gov/Public_Documents/index)**

**PROJECT TITLE/BASIN:**

Nutrient loading assessment for Lake Garfield, Monterey, Massachusetts

**MUNICIPALITIES AND WATERSHED SERVED BY THIS PROJECT:**

Town of Monterey, Massachusetts, Housatonic River Basin

**AMOUNT OF FUNDING REQUESTED AND LOCAL MATCH (IF ANY) PROPOSED:**

Federal 604 (b) Funds via MassDEP	<u>\$ 32.835</u>
Cost Share Proposed	\$ 0 (not required)
Total Project Budget	<u>\$ 32,835</u>

**PROJECT SUMMARY/OBJECTIVES:**

Lake Garfield and its watershed have never been the subjects of a complete Diagnostic/Feasibility Study, but have been studied piecemeal over three decades and managed as warranted. Observed water quality issues have resulted in this waterbody being placed on the integrated list of impaired waters for elevated phosphorus, low oxygen, and aquatic invasive species (Eurasian water milfoil). A TMDL is needed for phosphorus, which very likely also relates to the depression of oxygen. This project seeks to augment existing data to support development of a TMDL for phosphorus. The primary needs are quantification of storm water phosphorus inputs from diffuse sources around the lake, updated in-lake phosphorus and oxygen profiles that include the deepest water, and assessment of internal phosphorus loading from sediment under anoxic water. Newly generated data will be used in a spreadsheet model to characterize phosphorus loading to Lake Garfield. The model will be applied to determine the level of reduction necessary to reach a loading level appropriate to the designated uses of this lake, and to evaluate specific management actions for their ability to achieve the necessary load reduction.

**PRINCIPAL CONTACT:**

<u>Scott Jensen, Selectman</u>	<u>413-528-1443</u>
Name and Title	Telephone
<u><a href="http://www.montereyma.gov/Public_Documents/index">http://www.montereyma.gov/Public Documents/index</a></u>	<u>413-528-9452</u>
Internet	Facsimile

**AUTHORIZED SIGNATORY:**

---

Selectman

Signature and Title required

Date

## **PROPOSAL**

### **1. CONCISE STATEMENT OF THE PROBLEM:**

Lake Garfield is a Great Pond under the laws of the Commonwealth of Massachusetts and a highly valued public resource in Monterey, MA, with an easily accessed beach and boat launch, as well as 162 properties on the lake and another 79 off the lake but with access. This 260 acre lake is popular for boating and fishing as well as swimming and passive enjoyment. It has been infested with Eurasian water milfoil for over 3 decades, but an annual drawdown has minimized peripheral milfoil abundance and a healthy native plant community limits distribution in deeper water. The Town and the Friends of Lake Garfield have recently committed over \$30,000 to address the only known dense patch of milfoil in the lake over spring and summer of 2015, through suction harvesting. Appropriate plant management is occurring.

The other major problem, and the subject of this proposal, is declining water quality, specifically as relates to elevated phosphorus (P) levels, low oxygen in water deeper than 20 feet, and blooms of cyanobacteria. P concentrations are not extreme (range of 10-40 µg/L in surface water, with an average between 20 and 25 µg/L) and cyanobacteria blooms have not yet been severe. Yet problems have been sufficient to put Lake Garfield on the 303(d) list for P and oxygen. Atmospheric P inputs are not high in this region and ground water inputs have been previously studied and not found to be high in available P. This leaves watershed runoff and internal release from sediment as the likely sources of excessive P to Lake Garfield. This proposal seeks to quantify inputs from those sources and put them into a management context.

If elevated P is a function of recent watershed inputs, the level of reduction necessary to achieve a desirable P concentration (<20 µg/L nearly all the time, preferably close to 10 µg/L as an average) can be estimated and the types of watershed management methods and the extent of application needed to achieve those reductions can be evaluated within the context of a simple watershed model.

If elevated P is a function of internal loading from sediment exposed to anoxia, the reduction achievable from oxygenation or P inactivation (the two logical methods for addressing this problem in a stratified lake) can be estimated and compared to the target load necessary to meet water quality goals. Some combination of watershed and in-lake methods may indeed be necessary to meet goals over an extended time period.

Low oxygen is a natural condition in many lakes, but one that is often exacerbated by human actions. Knowledge of the actual oxygen demand allows consideration of whether reduced internal production (based mainly on P control) can counter the demand or if other measures (most often oxygenation) will be needed to meet the oxygen standard in deep water.

### **2. APPROACH TO THE PROBLEM:**

There is only one permanent tributary to Lake Garfield, and it drains land of lower slope than most of the watershed, exhibiting minimal flow in dry weather other than during spring snowmelt. Yet there are many points of potential runoff around the lake, and with increased residential development and more year round use, inputs from these areas could be significant. Sampling of base flows and runoff would provide data to characterize watershed loading of P to Lake Garfield and would allow calibration of a model of watershed inputs to the lake. Assessment of up to 15 sites for total and dissolved P would include pre-storm (dry weather) sampling, which may result in few samples as most drainage pathways are dry except in wet weather, first flush samples collected with passive samplers, and post-storm samples, collected in

the waning part of the hydrograph, but before background flows resume. Three separate storm events would be targeted, providing reasonable characterization of watershed inputs.

Anoxia occurs at water depths of >20 feet in Lake Garfield during summer, which represents about one third of the lake area. P bound to iron could be released into the water column, but we have no data for deep water P concentrations or the Fe-P content of the surficial sediments in deep areas. Lake Garfield is in the Berkshire County limestone belt, and much P may be bound to calcium, limiting release under anoxia. The amount of available P and its release into the water need to be quantified for a complete picture of P loading to the lake.

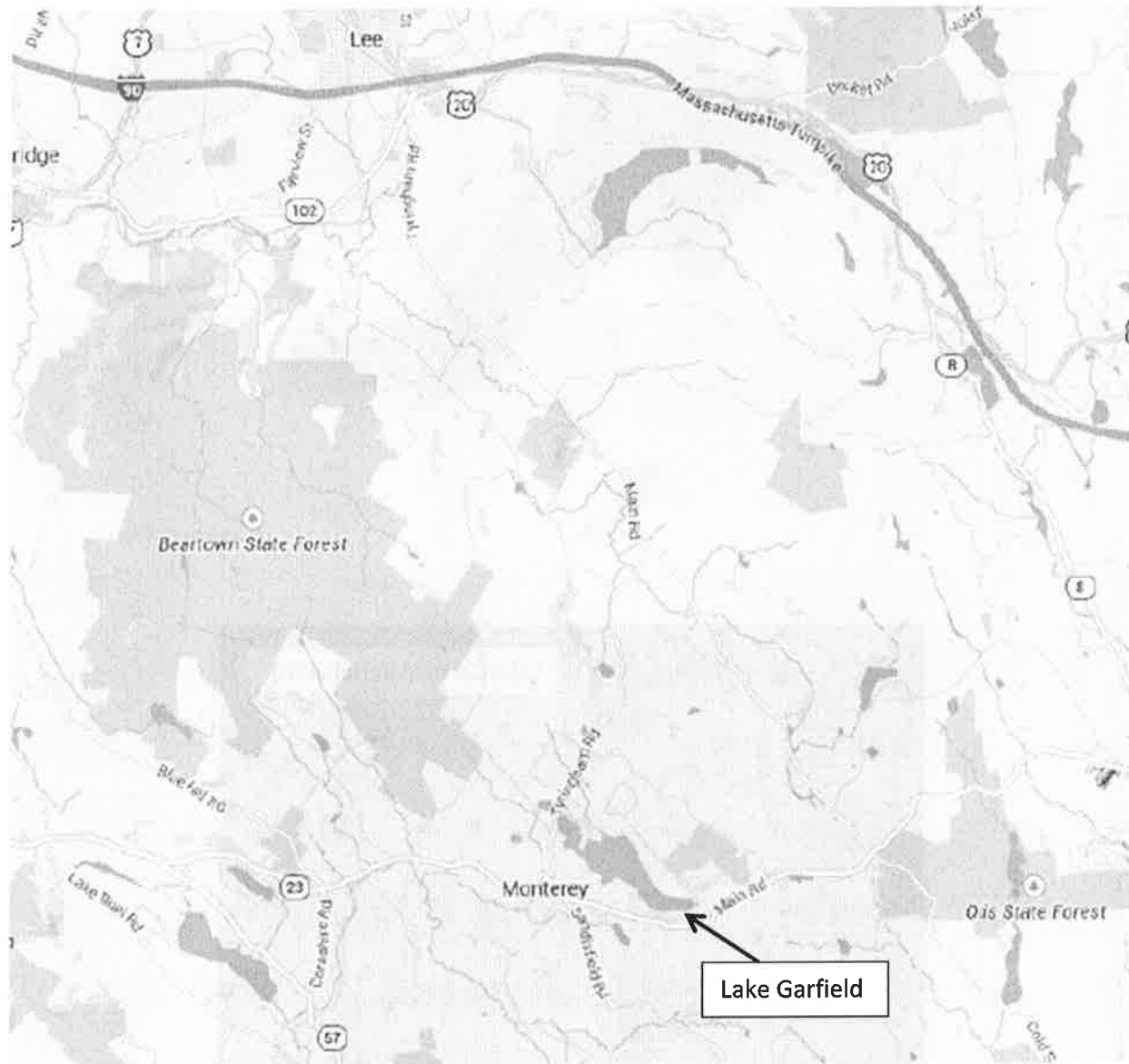
With the watershed and internal loads assessed, we can calibrate a model of the lake and estimate the acceptable load of P to the lake based on target levels of water clarity and bloom probability. Model scenarios can be run to evaluate the levels of watershed management and internal load control needed to reach acceptable conditions, and the efficacy of specific possible actions (i.e., non-structural or structural storm water controls, P inactivation within sediment, oxygenation).

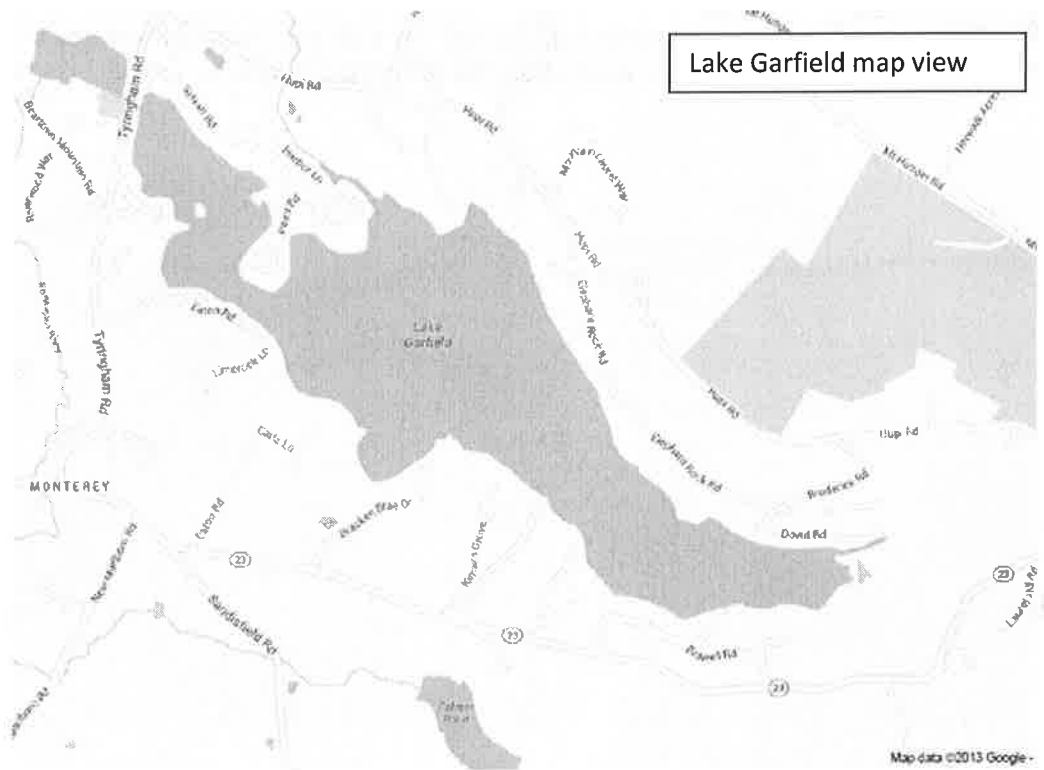
Oxygen demand must be quantified, and is best accomplished with temperature/dissolved oxygen (T/DO) profiles collected in spring, before oxygen levels near the bottom drop to values <2 mg/L, which alters oxygen uptake kinetics and causes underestimation of demand. A reduction in P should lead to a reduction in algae production and deposition of oxygen demanding substances, but decaying rooted plants also add to the oxygen demand. The level of oxygen demand reduction achievable by available P reduction can be estimated and compared to the measured demand to determine if the oxygen standard can be met by P control alone, or if supplemental action (e.g., oxygenation, sediment oxidization) is needed.

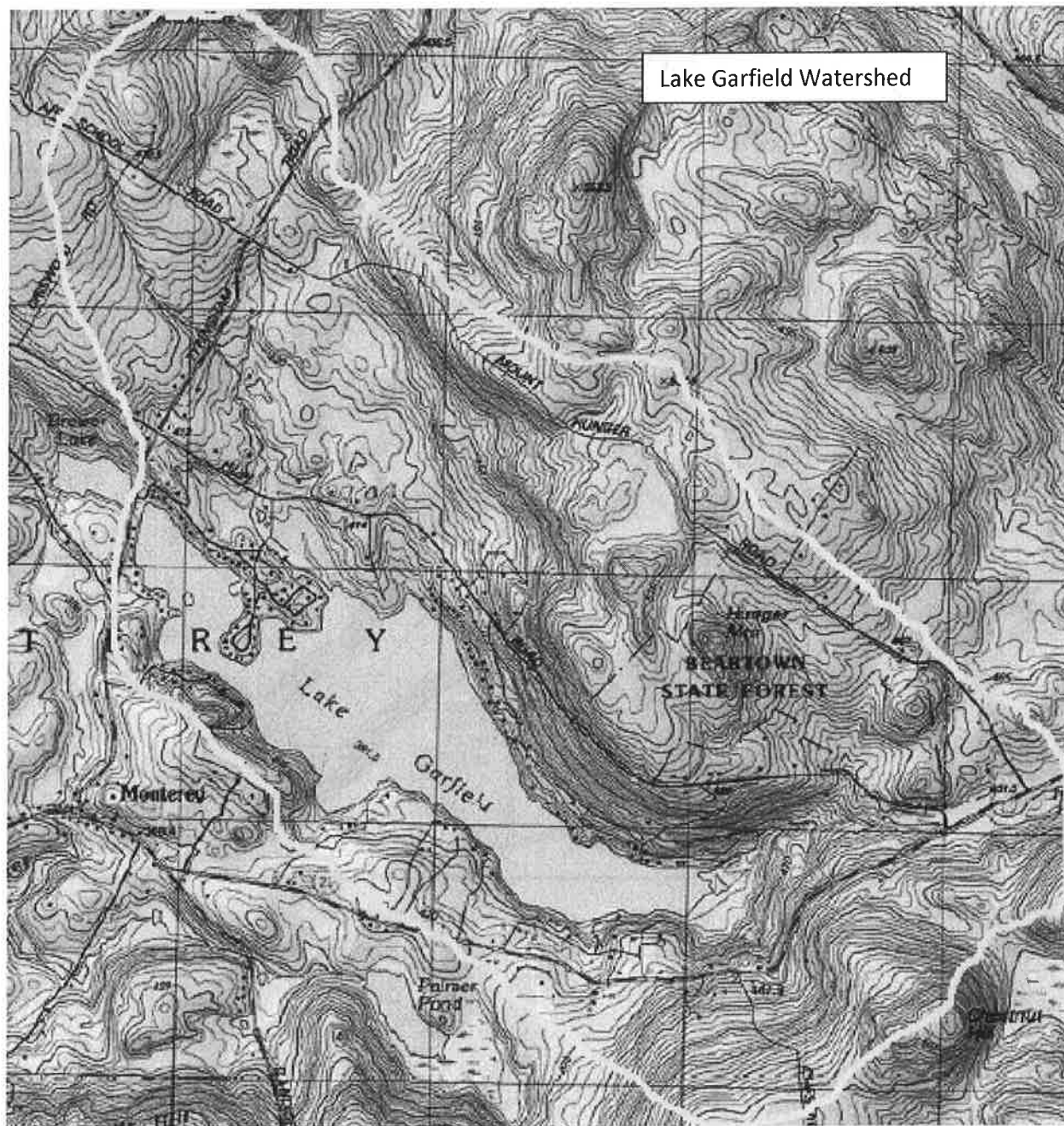
The needs expressed above lead to formulation of a 9 task program of investigation:

1. Prepare a QAPP to cover all activities under this project
2. Obtaining in-lake oxygen profiles in the deepest part of the lake from spring through summer
3. Measuring in-lake phosphorus concentrations in the epilimnion and hypolimnion during stratification
4. Pre-, first flush and post-storm water sampling for 3 storms
5. Assessment of available P in surficial sediment in areas subject to anoxia
6. Calibration of a lake and watershed model
7. Determination of target P loading to meet water quality objectives
8. Testing of watershed and in-lake management scenarios to determine how target loading can be met
9. Prepare a comprehensive report of the results and management implications of the above tasks

2. **PROJECT AREA:** Lake Garfield and its watershed are entirely within the Town of Monterey in Berkshire County, Massachusetts, and are visually displayed in the following graphics.

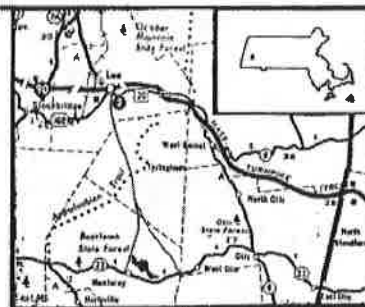




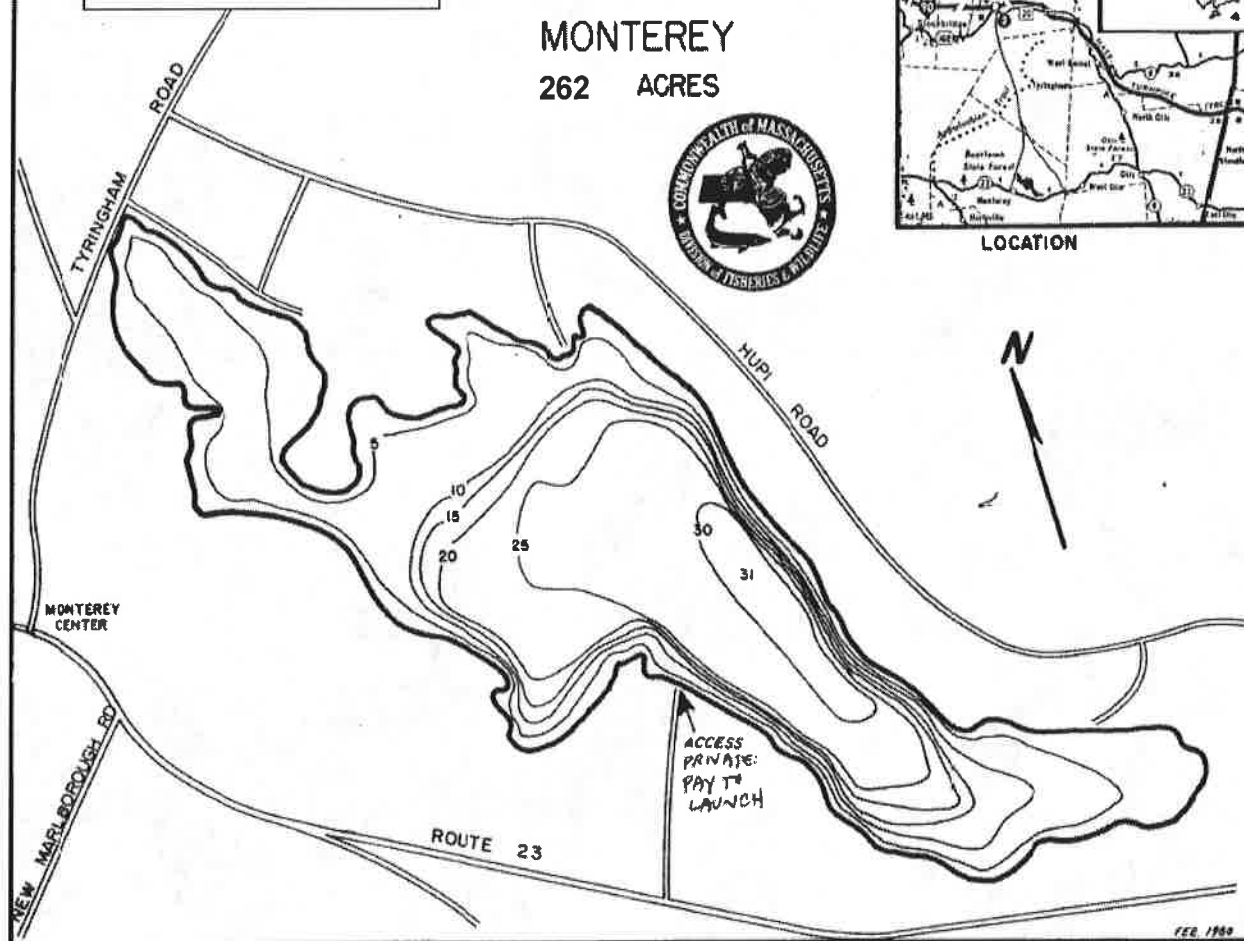


Lake Garfield Bathymetry

# LAKE GARFIELD MONTEREY 262 ACRES



LOCATION





#### **4. SCOPE OF SERVICES**

##### **OBJECTIVE / TASK #1: Quality Assurance Project Plan**

###### **BACKGROUND:**

A QAPP is prepared prior to data collection and approved by federal and state agencies responsible for review. A QAPP is prepared to guide project activities in a way that is consistent with proper scientific method and achievement of goals. It outlines the approach, the methods to be applied, the expected results, contingencies when results are not as expected, and governs use of data to reach valid conclusions. It is required for federally funded projects.

###### **APPROACH:**

A QAPP will be prepared to address the collection of data for groundwater quality, dissolved oxygen and temperature profiles, surficial sediment P content, and algae. The QAPP will address methods for data collection, analysis and use in drawing conclusions.

###### **DELIVERABLES:**

A draft QAPP will be prepared and submitted to the DEP and EPA. A final QAPP will be developed after comment and used to direct the project.

###### **COST:**

\$3200

##### **OBJECTIVE / TASK #2: Oxygen Profiles**

###### **BACKGROUND:**

Oxygen has been measured as part of a volunteer monitoring program for over a decade, plus various professional monitoring events prior to that, but the recent measurements tend to cease at a depth close to 6 m (20 feet), and usually there is still substantial oxygen at that point. The lake has a maximum depth of 31 feet, with about one third of the lake deeper than 20 feet, so a substantial area and moderate volume are not addressed by many measurements. For those profiles that extend deeper than 20 feet, the thermocline is close to 20 feet and anoxia can occur just below that depth. Gaining an understanding for the timeframe of loss of oxygen in deeper water is important to understanding possible internal P loading and the actual oxygen demand is important to estimating whether P control can ameliorate that demand or additional actions will be needed to meet the state standard.

###### **APPROACH:**

Oxygen status will be assessed with a field instrument that measures oxygen and temperature at 1 m intervals from surface to bottom, with the deepest measurements collected near the sediment-water interface. Assessment will occur in April, May, June, July, August and September, allowing both calculation of oxygen demand (which properly must occur in the spring before deep water values drop below 2 mg/L and the kinetics of oxygen uptake are altered) and estimation of the bottom area exposed to anoxia during the period of stratification. The areal and temporal extent of low oxygen will factor into calculation of P loading from surficial sediment.

**DELIVERABLES:**

Tabular and graphic summaries of T/DO profile data will be provided, along with areal and temporal estimation of encountered anoxia and calculation of oxygen demand.

**COST:**

\$3000

**OBJECTIVE / TASK #3: In-lake Phosphorus Levels****BACKGROUND:**

Phosphorus has been measured in Lake Garfield on individual spring and summer dates up to 3 times per year since 2003, but only at the surface, not in deep water. Values have ranged from near the detection limit (and desirable value) of 10 µg/L to 30 µg/L, with an average of 21 µg/L, at the threshold for expected unacceptable algae bloom frequency (between 20 and 25 µg/L). This means there will be good years and bad years, probably mostly weather dependent, and high runoff or warm conditions that promote internal recycling will figure strongly in P availability, algae production, and water clarity. Water clarity measurements are more frequent than the P testing, with a range of 2.0 to 5.0 m (6.6 to 16.5 feet) and an average of 3.7 m (12.2 feet). This does not indicate severe impairment, but is low among Berkshire Lakes not experiencing nutrient loading problems and suggests a decline from limited values from the 1970s or earlier. Clarity in Lake Garfield is not a function of suspended non-living solids, will vary with algae abundance and particle size distribution, and should be strongly tied to P concentrations unless cyanobacteria are absorbing P at the sediment surface and then rising in the water column, a known mode of bloom generation. Either way, P control is the key to algae control, and P levels in Lake Garfield need to be better understood.

**APPROACH:**

Water samples will be collected at the deepest point in the lake from the upper 5 m, just below the thermocline when the lake is stratified (6-7 m), and close to the bottom (8.5-9 m) in April, May, June, July, August and September to observe the change in P levels and any build-up in the bottom waters. Testing will include total and dissolved P. This will facilitate two methods of internal loading calculation (hypolimnetic accumulation and hypolimnetic vs. epilimnetic concentration), as well as corroborating estimated release rates for P from sediment and allowing comparison of epilimnetic P mass with watershed inputs. On one date 5 surface locations will be sampled to characterize variability and assess if there are any horizontal gradients of P concentration.

**DELIVERABLES:**

Tabular summary of P data over space and time.

**COST:**

\$4010

#### **OBJECTIVE / TASK #4: Inflowing Phosphorus Concentrations**

##### **BACKGROUND:**

The only available inflow data indicate that P concentrations in the one permanent tributary to Lake Garfield are not appreciably different than concentrations in the lake itself, but these are dry weather data for only a part of the watershed. External loading may or may not be a monthly to seasonal force in determining lake conditions, but will be the ultimate source of P accumulating in sediments. Understanding the level of inputs associated with storm water inputs is likely to be most important in this system, with steep slopes and soils of limited permeability. Ground water has been documented to be relatively low in available P and atmospheric inputs are known to be minor in this region. Surface water inputs require assessment to appropriately characterize P loading to Lake Garfield.

##### **APPROACH:**

Up to 15 inflow locations will be sampled for total and dissolved P just prior to, during, and near the end of three storm events. Shortly before an expected storm event, passive samplers will be set out to collect first flush samples, and pre-storm samples will be collected where there is flow at that time. The passive samplers will be retrieved later in the storm, after peak flows but before baseflow conditions have resumed, and an additional sample will be collected at that time. This results in up to 45 samples per storm event. Analysis will be for total P and total dissolved P, allowing separation of particulate P that must be acted upon in the lake before becoming available to algae or plants.

##### **DELIVERABLES:**

Tabular summary of P data for each location for each storm event.

##### **COST:**

\$12,425

#### **OBJECTIVE / TASK #5: Phosphorus in Surficial Sediment**

##### **BACKGROUND:**

Under anoxic conditions, P is released from Fe-P compounds and enters the water column above. This is the primary means of P release from sediment, although not the only mechanism. We will be measuring the actual accumulation rate of P in the hypolimnion, but if inactivation is needed, we have to know the amount of Fe-P in the sediment to calculate an appropriate dose of inactivator, usually aluminum. Further, the amount of Fe-P in the surficial sediments (upper 10 cm) can be used to provide an independent estimate of P release. In geographic areas where calcium is abundant, it is also possible that Fe-P is low, in which case accumulation may be a function of other processes, such as settling of particles from above or decomposition. Knowledge of Fe-P in surficial sediments is important to a more complete understanding of loading.

##### **APPROACH:**

Surficial sediment will be sampled at 5 locations in Lake Garfield, covering the area known to be exposed to anoxia. Only one sampling is needed to characterize the sediment, and sampling can occur any time of

year, but will be coupled with one of the in-lake water quality sampling trips for efficiency. Samples will be tested for TP, Fe-P, % solids and % organic matter, allowing calculation of available Fe-P and its relation to TP and other key sediment features. Samples will be collected with an Ekman dredge and only the upper 10 cm of sediment will be used. The range of plausible mass release from sediment will be calculated based on the range of percent release known from other lakes and daily release rates expected in each pond as a function of measured Fe-P and area of sediment exposed to anoxia.

**DELIVERABLES:**

Tabular and graphic summaries of all data will be provided, along with estimates of internal P load by multiple methods and a discussion of surficial sediment as a P source to support algae blooms.

**COST:**

\$1600

**OBJECTIVE / TASK #6: Calibrate a linked watershed-lake model**

**BACKGROUND:**

The measurements made in tasks 2-5 are very useful in understanding current loading, but to make predictions one needs a model. The Lake Loading and Response Model, LLRM, is a public domain model used in multiple TMDL efforts, including projects in NH, MA and CT. It is a fairly simple spreadsheet model that generates P loads from land uses and areas in the watershed, routes them to the lake with attenuation that can be corroborated with real data at inlet points, and predicts in-lake conditions including P concentration, water clarity, and the probability of chlorophyll at any desired level based on depth, flushing, and inputs. LLRM has a user manual and a QAPP already in place.

**APPROACH:**

LLRM will be set up for Lake Garfield and its watershed. The model will be calibrated with inputs and in-lake data. Where data are available from other time periods, verification can also be achieved. Once set up to appropriately model reality, the model can be used to back-calculate desirable loading and test management scenarios.

**DELIVERABLES:**

A calibrated LLRM model with narrative to explain how it has been set up and how well known conditions are represented.

**COST:**

\$3000

#### **OBJECTIVE / TASK #7: Determine Target Loading**

##### **BACKGROUND:**

Desirable levels of water clarity and chlorophyll concentration probability can be set based on user preferences and literature linking uses to conditions. These levels can be translated into P concentration through the model, and in turn into acceptable loading levels.

##### **APPROACH:**

The model will be used to determine what load of P is tolerable to reach desired levels of water clarity and chlorophyll concentration. The Friends of Lake Garfield will be involved in setting target conditions.

##### **DELIVERABLES:**

Target load of P to Lake Garfield based on the model, with a description of the target conditions and how the target P load was derived and the level of reduction necessary to reach that target load.

##### **COST:**

\$600

#### **OBJECTIVE / TASK #8: Evaluate Possible Load Reduction Scenarios**

##### **BACKGROUND:**

Models are used to test “what if” scenarios of environmental management to determine probable impacts on a resource and whether or not desired conditions can be achieved by specific actions. Once a target load has been determined, various management scenarios can be tested for resultant reduction in P load. Options such as structural changes in storm water management (such as detention or infiltration that affect selected drainage areas within the model) or reducing the internal load (which can be accomplished with oxygenation or inactivation) can be incorporated and the result on steady state lake conditions can be examined.

##### **APPROACH:**

LLRM will be used to assess watershed and in-lake measures for potential reductions in P loading to Lake Garfield and possible achievement of target conditions.

##### **DELIVERABLES:**

Tables that show the management scenarios and key model output, including resultant steady state conditions, with narrative explanation and comparison to target conditions.

##### **COST:**

\$800

**OBJECTIVE / TASK #9: Reporting****BACKGROUND:**

Quarterly, draft and final reports are required under the 604b grant program.

**APPROACH:**

Quarterly reports in the prescribed format will be supplied. A draft report will be completed within 3 months of the conclusion of all field work and submitted for review. The final report will be completed within one month of the return of all comments, and will be submitted as four hard copies, six compact discs, and an electronic PDF version for posting on websites.

**DELIVERABLES:**

Quarterly reports, a draft report and a final report in the format and number prescribed.

**COST:**

\$4200

## 5. PROJECT BUDGET

The budget below is provided in the format indicated in the available proposal template.

Expense Items	604 (b) Amount	Cost Share (not required)	Total Amount
<b>Respondent's Salary - By Title and salary range</b>			
<b>Subcontractual Services</b> Field, lab, data analysis and reporting services	\$31,565		\$31,565
<b>Equipment</b>			
<b>Supplies (including printing, mailing)</b> Storm water sampling kits, printing	\$425		\$425
<b>Travel (for mileage only @ 0.45 cents/mile)</b>	\$845		\$845
<b>Total Amounts:</b>	\$32,835		\$32,835

OVERHEAD RATE (%)      NA      %

TOTAL REQUEST FOR GRANT:    \$32,835    604 (b) Funds

TOTAL COST SHARE:              \$0 (Not Required)

TOTAL BUDGET AMOUNT:       \$32,835

DBE fair share requirements will be met through the contracted services portion of the budget. It is intended that Aquatic Resource Consulting, a WBE under state regulations that qualifies for and is in the process of receiving DBE status under the federal program, will provide sampling support to more than satisfy the corresponding allocation (\$3000+). We are still trying to locate a MBE that qualifies under the federal DBE program to assist with sampling to meet that portion of the fair share allocation, but that firm

would also assist with sampling for a similar sum, with DBE participation focused primarily on the inflowing phosphorus task.

Note that the Friends of Lake Garfield are prepared to provide in-kind support for this project, including provision of some equipment (e.g., boats) and sampling assistance. The Friends of Lake Garfield has also supported monitoring of the lake over the last decade, including both conduct of some monitoring and financial support of consulting firms to do special lake surveys; all available data come from the effort of the Friends of Lake Garfield and the Town of Monterey. The Town of Monterey and the Friends of Lake Garfield are financially supporting Eurasian watermilfoil control over the next year, for which Lake Garfield is on the Integrated List of Impaired Waters, at a cost in excess of \$30,000. The money being put into milfoil control precludes further financial participation in this project, but it should be acknowledged that the expense for milfoil control is all part of the same overall lake management program that this project also supports.

The following table provides a budget breakdown by task. Direct costs include mainly laboratory analysis costs, but also include travel and supplies as itemized in the budget table above.

Task	Labor (Hr)	Labor Cost (\$)	Direct Cost (\$)	Total (\$)
QAPP preparation	32	3200		3200
Oxygen assessment	26	2600	400	3000
In-lake phosphorus	32	3200	810	4010
Inflowing phosphorus	64	6400	6025	12425
Surficial sediment assessment	10	1000	600	1600
Model calibration	30	3000		3000
Target load and conditions	6	600		600
Management scenario evaluation	8	800		800
Reporting	40	4000	200	4200
Total	248	24800	8035	32835



## 6. PROJECT MILESTONE SCHEDULE

TASK	MONTH													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>Task #1</b> <b>QAPP</b>	X	X	X											
<b>Task #2</b> <b>Oxygen Profiles</b>				X	X	X	X	X	X					
<b>Task #3</b> <b>In-Lake Phosphorus</b>				X	X	X	X	X	X					
<b>Task #4</b> <b>Inflowing Phosphorus</b>				X	X	X	X	X	X					
<b>Task #5</b> <b>Sediment Phosphorus</b>					X	X								
<b>Task #6</b> <b>Model Calibration</b>										X	X			
<b>Task #7</b> <b>Target Load Determination</b>											X			
<b>Task #8</b> <b>Management Scenario Evaluation</b>											X			
<b>Task #9</b> <b>Reporting</b>				X				X				X	X	X

The above schedule assumes a January 1 start date. Field work will occur April-September, presumably in 2016 by the grant award schedule.

## **7. QUALIFICATIONS**

Dr. Ken Wagner of Water Resource Services will direct all field, lab and data analysis efforts for this project. He will be assisted as warranted by other WRS staff or local volunteers from the Friends of Lake Garfield. An abbreviated resume for Dr. Wagner follows.

### **Resume for Kenneth J. Wagner**

#### **CONTACT INFORMATION**

144 Crane Hill Road, Wilbraham, MA 01095  
413-219-8071 (cell/office)  
kjwagner@charter.net

#### **PROFESSIONAL HISTORY**

Water Resource Services Inc. – current – President and Water Resource Manager  
AECOM Corporation, 2006 – 2010 – Senior Staff Scientist, Program Manager  
ENSR Consulting and Engineering, 1997-2006 – Senior Staff Scientist, Project Manager  
Fugro Environmental Consultants, 1993-1997 – Staff Scientist, Project Manager, Section Head  
Baystate Environmental Consultants, 1985-1993 – Water Resource Specialist, Supervisor  
New Jersey Department of Environmental Protection, 1977-1981 – Water Resource Specialist

#### **EDUCATION**

Ph.D. (Natural Resources Management) Cornell University, New York, 1985  
M.S. (Natural Resources Management) Cornell University, New York, 1983  
Non-degree coursework (Env. Sci.) Rutgers University, New Jersey, 1979-81  
B.A. (Environmental Biology) Dartmouth College, New Hampshire, 1977

#### **PROFESSIONAL REGISTRATIONS AND AFFILIATIONS**

Certified Lake Manager, NALMS, 1991-present  
40-hour OSHA Health and Safety Certification  
American Heart Association - CPR and First Aid Certification  
Wilderness First Aid certification  
National Association of Underwater Instructors SCUBA Certification  
North American Lake Management Society (Served as President, Treasurer, Certification Committee Chair, Associate Journal Editor, currently Chief Editor of Lake and Reservoir Management; 2003 Secchi Disk Award winner)  
Aquatic Plant Management Society (Northeast Chapter Board Member 2001-2003, Program Chair 2002-2005, Scientist of the Year Award 2004, Outstanding Member Award 2007)  
American Water Works Association  
American Society of Limnology and Oceanography  
American Fisheries Society  
Sigma Xi Research Society

#### **TECHNICAL SPECIALTIES**

Dr. Wagner has 37 years of experience in environmental management, including:

- Water Resources Assessment - Monitoring, Hydrology, Water Quality Modeling, Lake and Stream Biology (especially algae), Water Supply Protection, Stormwater and Wastewater Impacts
- Contaminants (Sediments, Household Chemicals, Pesticides, Metals)
- Environmental Impact Assessment (ENF/EIR/EIS Preparation, Aquatic Impacts)
- Rehabilitation Design (Watershed, In-lake, Water and Wastewater Treatment)
- Permitting (NPDES, Sec. 401/404, Wetlands Protection, Dam Safety, FERC)
- Construction Management (Supervision, Environmental Compliance Oversight)
- Expert Witness (Expert Testimony)
- Project Management (Proposals, Goals, Budgets, Schedules, Client Maintenance)

## **PUBLICATIONS**

- Wagner, K.J. 2015. Oxygenation and Circulation to Aid Water Supply Reservoir Management. Water Research Foundation, Denver, CO.
- Wagner, K.J. 2014. Rapid Water Quality Monitoring to Aid Water Supply Reservoir Management. Water Research Foundation, Denver, CO.
- Wagner, K.J., K. Thornton, C. Laurin and D. Mitchell. 2013. Water Quality Modeling to Aid Water Supply Reservoir Management. Water Research Foundation, Denver, CO.
- Wagner, K.J. 2013. Keeping the Lake in Lake Management. *LakeLine* 33:4-6.
- Wiggins, B., K.J. Wagner and C. Calhoun. 2012. Boating Safety at Lake Lure. *LakeLine* 32:22-26.
- Esten, M.E. and K.J. Wagner. 2010. Investigation of benthic phosphorus flux controls in Lake Waco, Texas. *Lake Reserv. Manage.* 26:114-122.
- Wagner, K.J. 2010. Loading of phosphorus and nitrogen to Lake Waco, Texas. *Lake Reserv. Manage.* 26:123-146.
- Wagner, K.J. 2010. Keeping Connected: People, Lakes and Life. *LakeLine* 30:16-18.
- Wagner, K.J. 2010. Advances in lake management: research translated into application. *Verh. Internat. Verein. Limnol.* 2010, Vol. 30 (9):1313-1316.
- Wagner, K.J., D.F. Mitchell, J.J. Berg and W.C. Gendron. 2008. Milfoil Ecology, Control and Implications for Drinking Water Supplies. Awwa Research Foundation, Denver, CO.
- Wagner, K.J. 2008. Considering Fish Community Needs in Lake Management Projects. *LakeLine* 28:13-16. NALMS, Madison, WI.
- Wagner, K.J. 2007. Dredging: Methods and Considerations. *LakeLine* 26:19-23. NALMS, Madison, WI.
- Wagner, K.J. 2006. Assessing the Biological Impacts of Water Withdrawals in Stream Systems. Pages 61-89 in: *Eastern Water Resources: Emerging Issues in Competition, Science and Politics*. Amer. Bar Assoc., Chicago, IL.
- Gibbons, H. and K.J. Wagner. 2005. Alum Application Strategies. *LakeLine* 25:17-19. NALMS, Madison, WI.
- Wagner, K.J. 2004. The Practical Guide to Lake Management in Massachusetts. Executive Office of Environmental Affairs, Commonwealth of Massachusetts, Boston, MA. 160 pp.
- Wagner, K.J. (editor). 2004. The Generic Environmental Impact Report for Eutrophication and Aquatic Plant Management in Massachusetts. Executive Office of Environmental Affairs, Commonwealth of Massachusetts, Boston, MA. 610 pp.
- Wagner, K.J. and A. St. Amand. 2004. Stalking the Slime: the Value of Monitoring Algae in Your Lake. *LakeLine* 24:14-16.

- Wagner, K.J. and W.B. Corbin. 2003. Approaches for Determining Appropriate Nutrient Targets in TMDL Development for Lakes. In Proceedings of the WEF 2003 TMDL Conference, Chicago, IL. WEF, Alexandria, VA.
- Gerath, M., J. Donohue, D. Albaugh and K.J. Wagner 2002. Recent Trends in the Regulation of Water Supply. Environmental Quality Management. Autumn, 2002.
- Wagner, K.J. 2001. In-Lake Management. Pages 217-306 (Chapter 7) in: Holdren, G.C. et al. (editors). Management of Lakes and Reservoirs. NALMS/USEPA, Madison, WI.
- Wagner, K.J. 2001. Limnology: The Science Behind Lake Management. LakeLine 21:24-26.
- Wagner, K.J. and R. Cataldo. 1997. Achieving multiple compliance objectives through a storm water pollution prevention plan. Massachusetts Environment, Spring 1997.
- Wagner, K.J. 1994. Of hammocks and horsepower: The noise issue at lakes. LakeLine 14:24-28.
- Wagner, K.J. 1990. Assessing impacts of motorized watercraft on lakes: issues and perceptions. Pages 77-94 in Enhancing the States Lakes Management Programs, 1990.
- Mitchell, D.J., K.J. Wagner, W.J. Monagle and G.A. Beluzo. 1989. A littoral interstitial porewater (LIP) sampler and its use in studying ground water quality entering a lake. Lake and Reservoir Management 5:121-128.
- Mitchell, D.F., K.J. Wagner and C. Asbury. 1988. Direct measurement of ground water flow and quality as a lake management tool. Lake and Reservoir Management 4:169-178.
- Wagner, K.J. 1986. Biological management of a pond ecosystem to meet water use objectives. Lake and Reservoir Management 2:54-59
- Mills, E.L., J.L. Forney and K.J. Wagner. 1986. Fish predation and its cascading effect on the Oneida Lake food chain. Pages 118-131 in W.C. Kerfoot and A. Sih (editors) Predation: Direct and Indirect Impacts on Aquatic Communities. University Press of New England, Hanover, NH.
- Wagner, K.J. 1985. Ecological genetics of *Daphnia pulex* in Oneida Lake, New York. Ph.D Thesis, Cornell University, Ithaca, NY.
- Wagner, K.J. and R.T. Oglesby. 1984. Incompatibility of common lake management objectives. Pages 97-100 in Lake and Reservoir Management: Proceedings of the Third Annual Conference, NALMS. USEPA 440/5/84-001, Washington, DC.
- Wagner, K.J. 1983. The impact of natural phytoplankton assemblages on *Daphnia pulex* reproduction in Oneida Lake. M.S. Thesis, Cornell University, Ithaca, NY.

## REPRESENTATIVE PROJECT EXPERIENCE

Preparation of the Final GEIR for Lake Management in Massachusetts: Ken Wagner edited the final version of the Generic Environmental Impact Report relating to lake management activities in MA from 1999-2004. This document governs the procedures to be used to determine impacts and provides guidance on selecting management methods and evaluating regulatory restrictions on their application. A companion guide was prepared to aid conservation commissions and other lay groups in navigating this complex area of environmental management. These documents summarize the state of knowledge of lake and watershed management in Massachusetts and elsewhere and provide guidance to both project proponents and regulators for effective water resource management. Ken served on two committees for the streamlining of lake management permitting and the development of restoration guidance for MA lakes, including service as a technical reviewer for the initial GEIR for lake management produced by UMASS. Ken supplied substantial quantities of information for the GEIR and provided numerous case histories for illustration before becoming the final editor for the document.

Preparation of manuals on water quality monitoring, water quality modeling, and circulation and oxygenation as reservoir management methods for the Water Research Foundation, Denver, CO: From 2010 through 2014, Ken Wagner developed case histories from the water supply industry on the three elements of this research project sponsored by WRF. A manual was prepared on each topic to aid reservoir managers and utility administrators and technical staff in understanding options, benefits and costs in association with these maintenance and operations activities. Each manual provides background and literature reviews, then delves into the water industry's experience in each technique, summarizing and recommending the best approaches for possible management scenarios. Webcasts were delivered to advance the state of industry knowledge on these valuable tools.

Diagnostic/Feasibility (D/F) studies of over 250 lakes in the United States: From 1977 to about 2000, under Section 314 of the Federal Clean Water Act or state corollary laws, Ken Wagner conducted complete D/F studies for municipalities, states and the federal government. These investigations incorporate 6-18 months of sampling of the lake and its tributaries for chemical and biological constituents, characterization of soils, vegetation, land use and pollution sources in the watershed, construction of hydrologic and nutrient budgets, assessment of trophic status and key influences thereon, and a detailed evaluation of methods for achieving stated management goals. Management approaches involving watershed and in-lake techniques are recommended and followed through implementation.

Dredging feasibility evaluation for over 40 lakes in the United States: Working with a template he developed in 1992 and has refined over time, Ken Wagner has conducted many dredging feasibility evaluations intended to support the design and permitting process. Dredging goals, sediment quantity and quality, disposal options, environmental constraints, appropriate engineering methods, and costs are all reviewed in the context of the proposed project. Clients, funding sources, and regulatory agencies have found that these evaluations add much needed clarity to the decision-making process and can accelerate project progress. Sediment quality usually has the greatest impact on disposal options and cost. Dr. Wagner is often called upon to provide support to other firms contemplating dredging as a lake rehabilitation approach.

Plankton and periphyton analysis for a wide variety of clients and projects worldwide: As an experienced algal and microfauna taxonomist and ecologist, Ken Wagner has analyzed the composition of samples collected from over 1000 lakes and streams from all over the USA and some other countries. He has developed system specific keys and pictorial guides, assisted laboratories in setting up microscopic analysis systems, and teaches an annual workshop in algal collection, identification and ecology.

Phosphorus inactivation and hydrilla control in Mystic Lake, Marstons Mills, MA: Working with the Indian Ponds Association, the Town of Barnstable, and Aquatic Control Technology, Ken Wagner planned the aluminum treatment for inactivation of benthic phosphorus reserves and the physical control program for a recent infestation by *Hydrilla verticillata*. Permitting was complicated by the presence of protected mussel species, and a comprehensive monitoring program was developed. The aluminum was applied in September and October of 2010 without any detectable mortality of mussels or fish. The hydrilla control project was implemented in August of 2010 and all known patches have been removed and covered with benthic barrier. Monitoring and evaluation continues through 2012, with marked improvement in water clarity and a reduction in cyanobacteria blooms. Hydrilla continues to expand to new locations in the pond, but actual coverage is minimized by the program to date.

Enhancement of Neponset Reservoir, Foxboro, MA: Since 2007 Ken Wagner has assisted the NRRC, a non-profit group within the Town of Foxboro that controls the funds from a pollution case settlement, supervising the augmentation of previous studies to generate information essential to lake management planning, the development of a management plan, and implementation. The first step was the treatment of the 314 acre lake with fluridone for control of fanwort, an invasive aquatic plant. Maintenance of an appropriate concentration for over 90 days was targeted and achieved, and by the end of the first growing season, the lake was in far better condition than in previous years. Fanwort did not return at any significant density until 2012, and planning for action in 2013 is underway. Spot treatments to prevent expansion of variable water milfoil have been conducted. Native plant coverage has expanded dramatically. Ken Wagner participates in annual surveys to assess lake conditions and recommend management actions.

Management plan for Long Pond, Cape Cod, MA: Expanding upon an earlier study by the Cape Cod Commission, Dr. Wagner investigated severe anoxia and algal blooms in the largest freshwater body on Cape Cod in 2000 for the Towns of Brewster and Harwich. Internal recycling and oxygen demand were quantified and a management plan incorporating in-lake and external load control was developed. Several new techniques for evaluating phosphorus availability in the sediments and necessary alum dose calculation were applied as part of the analysis. Aeration and inactivation program protocols were provided. An inactivation program was adopted, permitted and conducted in 2007 under Dr. Wagner's guidance, along with watershed management planning to protect the investment. Planning foci included residential, commercial and cranberry bog nutrient loading controls. Monitoring through five years post-treatment indicates no negative impacts and much improved summer water clarity.

Comprehensive management plan development for Morses Pond, Wellesley, MA: Working with a committee comprised of Town Board members and representatives of other interest groups in 2004-2005, Ken Wagner led the effort to discern desired uses and priorities for Morses Pond, a recreational lake and indirect water supply (nearby town wells) and developed a plan to meet use goals. Management options had to be considered in light of technical feasibility and results, economic affordability in both the long and short term, and social acceptability in light of possible risks to non-target organisms. A highly public evaluation and plan development process was conducted to reach a plan which met technical, economic and regulatory feasibility objectives. Both algae and rooted plant management were addressed, and complete costing for a 20 year program was derived. Ken Wagner now serves as the "Pond Manager" for Wellesley, aiding implementation of a nutrient inactivation system and a harvesting program for rooted plant management. Dredging occurred in 2012 and 2013.

Invasive aquatic species rapid response plans for Massachusetts: Written plans were prepared for the Department of Conservation and Recreation in 2005, addressing preventive, eradication and control measures for variable watermilfoil, Eurasian watermilfoil, fanwort, hydrilla, curlyleaf pondweed, common reed, zebra mussels and snakehead fish. Plans focused on detection and confirmation of invasion, quantification of the extent of invasion, quarantine procedures, and methods of control. Guidance was provided on when to apply which technique and the expected results under a range of likely conditions.

## Resume for Ms. Wendy Gendon

**Years Experience:** 18

### Technical Specialties

- Aquatic Ecology
- Limnology
- Lake and Pond Assessment and Management
- Watershed Assessment and Management
- Monitoring Program Design and Implementation
- Volunteer Training
- Habitat Evaluation
- Fisheries Assessment
- Vegetation Surveys
- Geographic Information Systems
- Database Management
- Contractor Oversight

### Professional History

- Aquatic Restoration Consulting
- US Army Corps of Engineers
- ENSR/AECOM

### Education

- BS (Biology) Framingham State College

### Professional Registrations and Certifications

- Certified Lake Manager, North American Lake Management Society
- North American Lake Management Society Board of Directors
- North East Chapter NALMS, Secretary and Massachusetts State Representative
- PADI Open Water SCUBA Certification
- Commonwealth of Massachusetts Boating Safety Certificate
- Red Cross First Aid and CPR

Ms. Wendy Gendron is a project manager with more than 18 years experience in aquatic ecology, and the owner of Aquatic Restoration Consulting, LLC. She is a Certified Lake Manager through the North American Lake Management Society. She has performed and designed numerous diagnostic feasibility studies, which include physical, chemical and biological assessments and management recommendations for aquatic restoration. Her experience also includes design and oversight of in-lake and watershed management implementation including dredging, drawdowns, alum treatments, plant harvesting, planting, benthic barrier installation herbicide application, and watershed controls. She has authored and presented numerous papers at international symposia on lake and watershed management.

### REPRESENTATIVE PROJECT EXPERIENCE

***Town of Harvard, MA, Bare Hill Pond.*** Ms. Gendron has assisted the Town of Harvard as a full service lake and watershed consultant since 2000. She has planned and conducted field surveys including in-lake macrophytes, wetland plant community, lake and watershed water quality, and sediment quality and quantity. She has assisted with permitting of winter water level drawdowns and dredging. She is currently monitoring newly installed stormwater treatment basins as part of a Section 319 grant. She is also monitoring water quality, plants and habitat to document efficacy of winter water level drawdowns and watch for unintended consequences of the drawdown. Pre and post drawdown vegetation surveys show statistically significant changes in plant cover, biovolume and community dominance. However, there has been an increase in abundance of a shoreline invasive species, yellow flag and increased density of cattails in the downstream wetlands. Other services provided include assistance with permitting, education and outreach, volunteer training and on call services. Ms. Gendron has conducted volunteer training for water quality sampling and plant identification.

***Massachusetts Department of Conservation and Recreation, Leominster, MA, Crow Hill Pond.*** Ms. Gendron was the project manager investigating nutrient and bacteria sources to Crow Hill Pond and in-lake rooted plant control options for this popular swimming pond located in Leominster State Forest. Data collected as part of the beach monitoring program have resulted in exceedances of the water quality standard for contact recreation. Ms. Gendron designed and implemented a bacteria and nutrient study to identify potential sources of bacteria contamination and to document baseline nutrient conditions within the pond. An aquatic plant survey was also performed. Groundwater wells were installed downgradient of restrooms and monitoring to determine if these facilities impact beach water quality. The swimming area was monitored during peak use to determine if bathers were a source of bacteria. Tributaries were also sampled during dry and wet weather. The study concluded that bathers and waste from Canada geese were a substantial sources of bacteria. Rooted plant control options for two invasive species of milfoil were also provided.

***Rhode Island Department of Environmental Management, Tiverton, Rhode Island.*** A

Diagnostic/Feasibility study of a 487 acre multiple use reservoir (Stafford Pond) was completed in Tiverton, Rhode Island. This yearlong study included a comprehensive evaluation of Stafford Pond and its watershed. Ms. Gendron provided technical field and laboratory assistance for the in-lake assessment including an evaluation of lake morphometry, benthic sediments, hydrology, surface water chemistry, ground water chemistry, sediment chemistry, nutrient loading, fish tissue, fish community composition, phytoplankton community composition, zooplankton community composition, and aquatic vascular plant community composition. Recommendations included the significant reduction of surface nutrient inputs from adjacent agricultural land.

***Town of Pembroke and Duxbury, Massachusetts, Pembroke/Duxbury, Massachusetts.*** Ms. Gendron provided technical assistance for a diagnostic/feasibility study of Lower Chandler Mill Pond that was prompted by concerns over plant nuisances and perceived loss of recreational utility. Information gathered was used to provide input on appropriate management of the pond and as a basis for guiding future management decisions. Management recommendations included plans to perform a lake drawdown and/or combine the drawdown with an herbicide application for maximum effectiveness.

***Berkshire County Commissioners, Pittsfield/Lanesborough, Massachusetts.*** Ms. Gendron provided technical assistance for a diagnostic/feasibility study of Pontoosuc Lake, a 493 acre lake located in the towns of Pittsfield and Lanesborough, Massachusetts. Concerns of the nuisance growth of aquatic macrophyte growth prompted the in-depth investigation of Pontoosuc Lake and its drainage basin. An analysis of a range of management options and a recommended strategy for future lake management was provided.

***Town of Wilmington, Massachusetts, Wilmington, Massachusetts.*** Ms. Gendron prepared a water quality assessment for Silver Lake. Existing conditions at the 28.5 acre lake were compared to those recorded in a previous investigation performed in 1987. Overall, observations made in the 1998 study paralleled those made in 1987. Actionable items in order to maintain acceptable water quality within Silver Lake remained the same. Management techniques to improve water quality were provided.

***City of Easthampton, MA, Nashawannuk Pond.*** Ms. Gendron served as the Project Manager for the dredging of Nashawannuk Pond in downtown Easthampton. Approximately 55,000 cy of dredge material was removed and transported off site for disposal over the winter of 2009-2010. Ms. Gendron managed a diverse project team of professionals, volunteers and contractors. The pond was mechanically dredged under dry conditions to remove aquatic plants and accumulated sediment to restore a deeper and cooler basin for fish and wildlife. Control and diversion of water was a challenge for this project. In addition to battling inflow of water from storms and ground water, the project team and contractor attempted to seal off a hydraulically connected pond in an effort to maintain its water level while Nashawannuk was drained. The soils in the area were extremely permeable and the pond head pressure was high. The benefit of maintaining the water level was not worth the additional cost for engineering and construction and this pond was also drained during project construction. Other challenges included safe and effective relocation of fish while draining the pond, resource agency coordination, media and congressional involvement, public outreach and volunteer participation. The City is enjoying the restored resource which provides countless hours of recreation right in the heart of the City.



**New Hampshire Department of Environmental Services.** Ms. Gendron assisted with hand pulling of variable milfoil (*Myriophyllum heterophyllum*) and planting of native species in Lake Massasecum, Bradford, New Hampshire as part of a research grant issued by the NHDES, EPA and National Oceanographic and Atmospheric Administration (NOAA). This plant replacement project served as a pilot study for the State of New Hampshire to determine the efficacy of plant replacement projects. A suction harvester, together with SCUBA assisted hand pullers, removed target plants from predefined experimental plots. A portion of the plots were allowed to recolonize naturally and others were planted with native plants at several densities. Results were positive in that native plants provided good cover shortly following planting. However, monitoring of successive years show that the natives were unable to hold back the reestablishment of dense milfoil. This technique is applicable to small areas where near complete removal of the non-native can occur prior to planting natives. The non-natives are often too aggressive and outcompete native plants. Ms. Gendron also served as the project manager for a second research grant. This project investigated correlations between lake and watershed characteristics, lake and pore water quality and sediment composition with variable milfoil presence/absence and abundance. The project was conducted on 26 lakes located throughout New Hampshire. The study included 15 lakes infested with milfoil and 11 uninfested. Variables correlated with milfoil growth included watershed size, watershed soils, water conductivity, color and clarity, and pore water nutrients, organic content and grain size. Although management of most of these variables is not probable, this project did provide a prioritization process for the state to evaluate the potential for infestation and early detection.

**Schuyler County, NY, Lamoka and Waneta Lakes.** Ms. Gendron is a co-author of the Supplemental Environmental Impact Statement for the use of fluridone to control Eurasian watermilfoil in two lakes of approximately 800 acres each in western NY. Milfoil has reduced plant diversity and habitat value for most aquatic species in the lake, but the use of fluridone on a whole-lake basis could have negative impacts on other species, most notably the prized muskellunge fishery managed by the NYSDEC. Working with the agencies, counties, lake district, and lake association, Ms. Gendron achieved consensus in favor of the treatment and all permits were granted. Ms. Gendron assisted in the preparation of the specifications for treatment of Waneta Lake, including a monitoring program and performance standards. Treatment of Lamoka Lake is expected following success at Waneta.

**Mt Kisco, NY, Byram Lake.** Ms. Gendron served on a team of aquatic scientists to investigate impacts of existing and proposed land use on Byram Lake, the water supply for Mt. Kisco, NY. This small reservoir, originally part of the New York City system, supplies water of adequate quality and quantity to the village, but both quality and quantity are threatened by current and proposed activities in the watershed. Impacts from a highway, residential areas, construction, and a proposed golf course were evaluated. Watershed and in-lake management actions were developed cooperatively with the village staff and a citizen's lake committee.

**Pioneer Valley Planning Commission, Springfield, Massachusetts.** Ms. Gendron compiled a water quality database from 10 years of monitoring data collected within the Mill River watershed. Determined trends and identified possible contamination and excess nutrient input issues. Ms. Gendron used an inlake water quality model to determine the nutrient load capacity of Lake Massasoit located near the confluence of the Mill River and Connecticut River. Ms. Gendron provided recommendations for future monitoring and management and developed a Microsoft Access database for data management.

***Town of Wakefield, Wakefield, Massachusetts.*** Ms. Gendron compiled a water quality database from more than ten years of monitoring data collected within the Lake Quannapowitt watershed by several volunteers. Ms. Gendron analyzed these data for trends and identified possible contamination and excess nutrient input issues. Ms. Gendron used several simple water quality models to determine nutrient loading to the lake and provided recommendations for future monitoring and management. A Microsoft Access database was developed for future monitoring data management.

***EPA Region 1 and MADEP, Pathogen TMDL, Massachusetts - Statewide.*** Ms. Gendron, together with the MADEP and EPA, authored watershed basin-wide pathogen TMDLs for the Commonwealth of Massachusetts. Twenty seven basins were completed, incorporating over 300 pathogen impaired segments. These TMDLs were designed to be evolving documents to allow segments to be added and removed with updates to the 305(b) report. A separate document, implementation guide, was also prepared that provides guidance to stakeholder on pathogen source reduction implementation techniques.

***CTDEP, Nutrient TMDL, Multiple Towns in Connecticut.*** Ms. Gendron developed four nutrient TMDLs for lakes in Connecticut. A land use export coefficient model paired with lake empirical equations was calibrated using existing data to determine nutrient loading under existing conditions. Land use within the model was then altered to determine loading pre-development resulting in a "background" loading estimate. The model was also used to determine the reduction necessary to return the lake to non-impaired conditions.

***EPA and New Hampshire Department of Environmental Protection, TMDL, New Hampshire.*** Ms. Gendron served as the senior technical reviewer of 30 nutrient TMDLs for the NHDES and EPA. These TMDLs were prepared using the ENSR-LRM (lake response model) and based on previous work prepared by Ms. Gendron. The ENSR-LRM model uses GIS-based land cover data with baseflow, runoff and pollutant export coefficients and attenuation factors to estimate nutrient loads. Model data are tempered with measured data to estimate annual pollutant loading. Annual loads are linked with in-lake empirical models that predict in-lake response to various loads (i.e., algal growth and water transparency). The model is used to determine load reductions necessary to bring waterbodies into compliance with their designated uses. Loading allocation and management implementation guidance was also provided.

***USACE and MADEP, Nutrient TMDL, SuAsCo (Concord River) Watershed.*** Ms. Gendron served as field coordinator on a major nutrient TMDL allocation project for the Concord River. The Concord River is eutrophic in the summertime due to the presence of excess nutrient loadings from POTWs and non-point sources. The field investigation featured collection of appropriate hydrologic, water quality, aquatic biologic measurements throughout the Concord River mainstem and tributaries during different seasons and under different flow conditions. Nutrient loadings from upstream rivers (the Assabet and the Sudbury) and from WWTPs were of particular interest in the field investigation. The project featured a review available data and design and implementation of an extensive field data collection program in support of the TMDL allocation process.

## **8. REQUIRED FORMS**

The following forms are submitted in compliance with RFR requirements.

Letter of Project Support from Town

EEO/AA Policy Statement

Letter of Intent to meet DBE allocation

Additional Environmentally Preferable Products/Practices

Commonwealth Terms and Conditions

Commonwealth Authorized Signatory Listing

W-9/DUNS Form

Electronic Funds Transfer Sign Up Form

Prompt Payment Discount Form

**Letter of Project Support – needs to go on Town letterhead and be signed**

The Town of Monterey supports the proposed project. The Town has supported the efforts of the Friends of Lake Garfield to manage the lake and is cost sharing in a current effort to manage Eurasian water milfoil at a cost of \$30,000+. The Town recognizes the value of Lake Garfield as a habitat and recreational resource, and as an economic engine for the Town and region. Support by the Commonwealth of Massachusetts for management of this Great Pond, a public resource, would be greatly appreciated.

## **SAMPLE**

### **Letterhead of Organization**

#### **EEO/AA POLICY STATEMENT**

Town of Monterey has a statutory mandate under law to guarantee equal treatment for all who seek access to its services or opportunities for employment and advancement. No discrimination will be tolerated on the basis of race, creed, political affiliation, color, sex, national origin, age, or handicap. The ultimate goal is for personnel of this organization to reflect the proportions of minority, female, and handicapped persons in the populations they serve.

Town of Monterey will meet its legal, moral, social, and economic responsibilities for Equal Employment Opportunity/Affirmative Action as authorized and required by all pertinent state and federal legislation, executive orders and rules and regulations, including the following:

1. Title II of the Civil Rights Act of 1964 (42 USC s2000e et seq., which prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin; and
2. The Age Discrimination in Employment Act of 1967 (29 USC s621 et seq.), which prohibits discrimination in employment on the basis of age with regard to those individuals who are at least 40 years of age, but less than 65 years of age; and
3. Section 504 of the Rehabilitation Act of 1973 (29 USC s794), and the regulations promulgated pursuant thereto (45 CFR Part 84), which prohibit discrimination against qualified handicapped individuals on the basis of handicap and requires employers to make reasonable accommodations to known physical or mental limitations of otherwise qualified handicapped applications and employees; and
4. M.G.L. c. 151B s4 (1), as amended by Chapter 533, 1983, which prohibits discrimination in employment on the basis of race, color, sex, religious creed, national origin, ancestry, age or handicap,

In addition, the Provider agrees to be familiar with and abide by:

- \* Massachusetts Executive Order 524
- \* Massachusetts Executive Order 526
- \* Equal Pay Act of 1963
- \* Massachusetts Architectural Barriers Board Act
- \* Federal Executive Orders 11246 and 11375 as amended.

All employees, unions, subcontractors and vendors must make genuine and consistent efforts:

1. To ensure equal employment opportunities for present and future employees, and
2. To implement affirmative action, as legally required, to remedy the effects of past employment discrimination and social inequalities.

The responsibility for implementing and monitoring this policy has been delegated to:

Name and Title of Employee

Furthermore, \_\_\_\_\_ (Town of Monterey \_\_\_\_\_) prohibits that any employee, or applicant, be subjected to coercion, intimidation, interference or discrimination for filing a complaint or assisting in an investigation under this program. No portion of this Equal Employment Opportunity/Affirmative Action Policy shall be construed as conflicting with any existing or future judicial or legislative mandate where a constriction consistent with that mandate is reasonable.

\_\_\_\_\_  
Signature of Chief Executive

\_\_\_\_\_  
Selectman  
Title of Chief Executive

\_\_\_\_\_  
Date

**Letter of Intent to meet DBE allocation - needs to go on Town letterhead and be signed**

The Town of Monterey is committed to providing fair share allocations to disadvantaged business enterprises (DBE). We are familiar with Commonwealth requirements as relate to minority owned business enterprises (MBE) and women owned business enterprises (WBE), and understand the Federal government adds a financial limitation to make any existing MBE or WBE a DBE. At the present time we have the participation of a WBE that qualifies as a DBE and is qualified to assist with this project, and will endeavor to follow the prescribed process to locate an appropriate MBE that qualifies as a DBE.

***Purpose of the Form – Use these instructions to fill out the form that follows.***

**ADDITIONAL ENVIRONMENTALLY PREFERABLE PRODUCTS / PRACTICES**

*The ADDITIONAL ENVIRONMENTALLY PREFERABLE PRODUCTS / PRACTICES form is a standard evaluation tool included with virtually all OSD Requests for Response (RFR) that will result in a Statewide Contract. It applies to the operations of the Bidder (not any manufacturer or other company represented by the Bidder).*

**Purpose of the Form**

The **primary purpose** for incorporating this language into RFRs is to encourage potential Bidders to adopt business practices that foster a sustainable approach to conducting their operations. Such an approach may include one that has a reduced impact on the environment or public health, such as, but not limited to, creating less waste by using less packaging; eliminating the use substances and/or materials that are considered toxic during the manufacturing process, at time of product use, or upon disposal; or utilizing vehicles in the delivery fleet that operate on alternative fuels for the purpose of reducing air pollution and greenhouse gas emissions.

**Other purposes for the form that may be beneficial to the Bidder include:**

- The form alerts Bidders to the fact that the Commonwealth considers such initiatives part of the “best value” of a procurement.
- The form provides Bidders with an opportunity to receive “preference” in the evaluation phase of the RFR for the environmental initiatives they have instituted. It is important for Bidders to provide a statement (or other documentation) along with their response to substantiate or better explain how those initiatives are implemented in their operations in order to receive a preference or points.

**Guidance on Completing the Form**

- 1) **Packaging** – Many forms of corrugated containers now contain 60% or more post-consumer recycled content and are comparable in cost; in addition, several alternatives to using polystyrene as a packaging cushion are now available. Bidders should check with their box manufacturers to learn about the recycled content they use and include information about that in their RFR Response. Companies are also encouraged to research the EPP alternative products and practices indicated on the form and convert to their use wherever possible.
- 2) **Business Operations** – This section refers to things the Bidder does within their own operations to create a smaller “environmental footprint” in the marketplace by reducing the impact of their operations through energy conservation, waste and toxics reduction and other sustainable practices.
- 3) **Training and Education** – If Bidders offer a product or service that involves an environmentally preferable component and they train their staff to inform customers of these features, such training should be mentioned in conjunction with this form to receive credit. If Bidders provide materials (brochures, info on websites, etc.) on the environmental attributes of their products/services, they can also receive credit in the evaluation process if a brief explanation is included with the form. It is preferable if such training materials and other information are included with the Response.
- 4) **Certifications** – Bidders should familiarize themselves with the various certifications for products and processes that are available within the industry in which they operate, with particular attention to those concerning environmental issues. Providing information with the EPP form on such certifications and/or attaching a copy of the actual certificate is important to receive credit in the evaluation process.
- 5) **Other Environmental Criteria** – If Bidders are already doing something indicated in the RFR as a “desirable” criteria and they include a statement with their RFR that they have implemented such measures, this will be considered in the evaluation phase as well. In addition, any initiative untaken by the Bidder that may be considered an environmental benefit, should be mentioned as part of this section in the RFR.



## ***ADDITIONAL ENVIRONMENTALLY PREFERABLE PRODUCTS / PRACTICES***

Bidder \_\_\_\_\_ Company \_\_\_\_\_ Name: \_\_\_\_\_ Town \_\_\_\_\_ of \_\_\_\_\_ Monterey \_\_\_\_\_  
Date: 3-22-16

In line with the Commonwealth's efforts to promote products and practices which reduce our impact on the environment and human health, Bidders are encouraged provide information regarding their environmentally preferable/sustainable business practices as they relate to this contract wherever possible.

Bidders who can demonstrate such initiatives (referencing, but not limited to, the items listed below) will be eligible to receive evaluation points. In order to receive evaluation points, Bidders **must** complete this form and submit it with their RFR Response.

Bidders **must** submit appropriate documentation to support the items for which the Bidder indicated a "Yes" (and/or include information in the box following each question). *(See page 2 for additional guidance on completing this form)*

### **1. Packaging**

Has the Bidder implemented any of the following environmental initiatives? **(A checkmark indicates "Yes")**

- ☐ Use of corrugated materials that exceeds the required minimum of 35% post-consumer recycled content
- ☐ Use of other packaging materials that contain recycled content and are recyclable in most local programs
- ☒ Promotes waste prevention and source reduction by reducing the extent of the packaging and/or offering packaging take-back services, or shipping carton return
- ☐ Reduces or eliminates materials which have been bleached with chlorine or chlorine derivatives
- ☐ Eliminates any packaging that may contain polyvinyl chloride (PVC), or polystyrene or heavy metals

**If yes, documentation of practices must be included in the box below, which will expand to accommodate your response.**

### **2. Business Practices / Operations / Manufacturing**

Does the bidder engage in practices that serve to reduce or minimize an impact to the environment, including, but not necessarily limited to, the following items? **(A checkmark indicates "Yes")**

- ☒ Recycles materials in the warehouse or other operations
- ☐ Use of alternative fuel vehicles or vehicles equipped with diesel emission control devices for delivery or transportation purposes

\_\_\_\_ Use of energy efficient office equipment or signage or the incorporation of green building design elements

\_\_\_\_ Use of recycled paper (that meets federal specifications) in their marketing and/or resource materials

\_\_\_\_ Other sustainable initiative

**If yes, documentation of practices must be included in the box below, which will expand to accommodate your response.**

### **3. Training and Education**

Does the bidder conduct/offer a program to train or inform customers of the environmental benefits of the products to be offered under this contract, and/or does the bidder conduct environmental training of its own staff? ☐ Yes      ☒ No

**If yes, bidders must attach a description of the training offered and the specific criteria targeted by the training in the box below which will expand to accommodate your response.**

### **4. Certifications**

Has the bidder or any of its manufacturers and/or subcontractors obtained any of the following product/industry certifications?

\_\_\_\_ ISO 14000 or adopted some other equivalent environmental management system

\_\_\_\_ Other industry environmental standards (where applicable), such as the CERES principles, LEED Certification, C2C Protocol, Responsible Care Codes of Practice or other similar standards

\_\_\_\_ Third Party product certifications such as Green Seal, Scientific Certification Systems, Smartwood, etc.

**A check = "yes"; Bidders must indicate certificate name in the box below and attach a (scanned) copy with their response.**

### **5. Other Environmental Criteria**

Bidders are encouraged to respond to criteria specifically indicated in this RFR as "desirable environmental criteria" to receive consideration in the evaluation. **(Please provide information in the box which will expand to accommodate your response.)**

--



## COMMONWEALTH TERMS AND CONDITIONS

### Completed and Executed Commonwealth Terms and Conditions

This Commonwealth Terms and Conditions form is jointly issued by the Executive Office for Administration and Finance (ANF), the Office of the Comptroller (CTR)

and the Operational Services Division (OSD) for use by all Commonwealth of Massachusetts ("State") Departments and Contractors. ***Any changes or electronic alterations by either the Department or the Contractor to the official version of this form, as jointly published by ANF, CTR and OSD, shall be void.*** Upon execution of these Commonwealth Terms and Conditions by the Contractor and filing as prescribed by the Office of the Comptroller, these Commonwealth Terms and Conditions will be incorporated by reference into any Contract for Commodities and Services executed by the Contractor and any State Department, in the absence of a superseding law or regulation requiring a different Contract form. Performance shall include services rendered, obligations due, costs incurred, commodities and deliverables provided and accepted by the Department, programs provided or other commitments authorized under a Contract. A deliverable shall include any tangible product to be delivered as an element of performance under a Contract. The Commonwealth is entitled to ownership and possession of all deliverables purchased or developed with State funds. Contract shall mean the Standard Contract Form issued jointly by ANF, CTR and OSD.

**1. Contract Effective Start Date.** Notwithstanding verbal or other representations by the parties, or an earlier start date indicated in a Contract, the effective start date of performance under a Contract shall be the date a Contract has been executed by an authorized signatory of the Contractor, the Department, a later date specified in the Contract or the date of any approvals required by law or regulation, whichever is later.

**2. Payments And Compensation.** The Contractor shall only be compensated for performance delivered and accepted by the Department in accordance with the specific terms and conditions of a Contract. All Contract payments are subject to appropriation pursuant to M.G.L. C. 29, §26, or the availability of sufficient non-appropriated funds for the purposes of a Contract, and shall be subject to intercept pursuant to M.G.L. C. 7A, §3 and 815 CMR 9.00. Overpayments shall be reimbursed by the Contractor or may be offset by the Department from future payments in accordance with state finance law. Acceptance by the Contractor of any payment or partial payment, without any written objection by the Contractor, shall in each instance operate as a release and discharge of the State from all claims, liabilities or other obligations relating to the performance of a Contract.

**3. Contractor Payment Mechanism.** All Contractors will be paid using the Payment Voucher System unless a different payment mechanism is required. The Contractor shall timely submit invoices (Payment Vouchers - Form PV) and supporting documentation as prescribed in a Contract. The Department shall review and return rejected invoices within fifteen (15) days of receipt with a written explanation for rejection. Payments shall be made in accordance with the bill paying policy issued by the Office of the Comptroller and 815 CMR 4.00, provided that payment periods listed in a Contract of less than forty-five (45) days from the date of receipt of an invoice shall be effective only to enable a Department to take advantage of early payment incentives and shall not subject any payment made within the forty-five (45) day period to a penalty. The Contractor Payroll System, shall be used only for "Individual Contractors" who have been determined to be "Contract Employees" as a

result of the Department's completion of an Internal Revenue Service SS-8 form in accordance with the Omnibus Budget Reconciliation Act (OBRA) 1990, and shall automatically process all state and federal mandated payroll, tax and retirement deductions.

**4. Contract Termination Or Suspension.** A Contract shall terminate on the date specified in a Contract, unless this date is properly amended in accordance with all applicable laws and regulations prior to this date, or unless terminated or suspended under this Section upon prior written notice to the Contractor. The Department may terminate a Contract without cause and without penalty, or may terminate or suspend a Contract if the Contractor breaches any material term or condition or fails to perform or fulfill any material obligation required by a Contract, or in the event of an elimination of an appropriation or availability of sufficient funds for the purposes of a Contract, or in the event of an unforeseen public emergency mandating immediate Department action. Upon immediate notification to the other party, neither the Department nor the Contractor shall be deemed to be in breach for failure or delay in performance due to Acts of God or other causes factually beyond their control and without their fault or negligence. Subcontractor failure to perform or price increases due to market fluctuations or product availability will not be deemed factually beyond the Contractor's control.

**5. Written Notice.** Any notice shall be deemed delivered and received when submitted in writing in person or when delivered by any other appropriate method evidencing actual receipt by the Department or the Contractor. Any written notice of termination or suspension delivered to the Contractor shall state the effective date and period of the notice, the reasons for the termination or suspension, if applicable, any alleged breach or failure to perform, a reasonable period to cure any alleged breach or failure to perform, if applicable, and any instructions or restrictions concerning allowable activities, costs or expenditures by the Contractor during the notice period.

**6. Confidentiality.** The Contractor shall comply with M.G.L. C. 66A if the Contractor becomes a "holder" of "personal data". The Contractor shall also protect the physical security and restrict any access to personal or other Department data in the Contractor's possession, or used by the Contractor in the performance of a Contract, which shall include, but is not limited to the Department's public records, documents, files, software, equipment or systems.

**7. Record-keeping And Retention, Inspection Of Records.** The Contractor shall maintain records, books, files and other data as specified in a Contract and in such detail as shall properly substantiate claims for payment under a Contract, for a minimum retention period of seven (7) years beginning on the first day after the final payment under a Contract, or such longer period as is necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving a Contract. The Department shall have access, as well as any parties identified under Executive Order 195, during the Contractor's regular business hours and upon reasonable prior notice, to such records, including on-site reviews and reproduction of such records at a reasonable expense.

**8. Assignment.** The Contractor may not assign or delegate, in whole or in part, or otherwise transfer any liability, responsibility, obligation, duty or interest under a Contract, with the exception that the Contractor shall be authorized to assign present and prospective claims for money due to the Contractor pursuant to a Contract in accordance with M.G.L. C. 106, §9-318.



## COMMONWEALTH TERMS AND CONDITIONS

The Contractor must provide sufficient notice of assignment and supporting documentation to enable the Department to verify and implement the assignment. Payments to third party assignees will be processed as if such payments were being made directly to the Contractor and these payments will be subject to intercept, offset, counter claims or any other Department rights which are available to the Department or the State against the Contractor.

**9. Subcontracting By Contractor.** Any subcontract entered into by the Contractor for the purposes of fulfilling the obligations under a Contract must be in writing, authorized in advance by the Department and shall be consistent with and subject to the provisions of these Commonwealth Terms and Conditions and a Contract. Subcontracts will not relieve or discharge the Contractor from any duty, obligation, responsibility or liability arising under a Contract. The Department is entitled to copies of all subcontracts and shall not be bound by any provisions contained in a subcontract to which it is not a party.

**10. Affirmative Action, Non-Discrimination In Hiring And Employment.** The Contractor shall comply with all federal and state laws, rules and regulations promoting fair employment practices or prohibiting employment discrimination and unfair labor practices and shall not discriminate in the hiring of any applicant for employment nor shall any qualified employee be demoted, discharged or otherwise subject to discrimination in the tenure, position, promotional opportunities, wages, benefits or terms and conditions of their employment because of race, color, national origin, ancestry, age, sex, religion, disability, handicap, sexual orientation or for exercising any rights afforded by law. The Contractor commits to purchasing supplies and services from certified minority or women-owned businesses, small businesses or businesses owned by socially or economically disadvantaged persons or persons with disabilities.

**11. Indemnification.** Unless otherwise exempted by law, the Contractor shall indemnify and hold harmless the State, including the Department, its agents, officers and employees against any and all claims, liabilities and costs for any personal injury or property damages, patent or copyright infringement or other damages that the State may sustain which arise out of or in connection with the Contractor's performance of a Contract, including but not limited to the negligence, reckless or intentional conduct of the Contractor, its agents, officers, employees or subcontractors. The Contractor shall at no time be considered an agent or representative of the Department or the State. After prompt notification of a claim by the State, the Contractor shall have an opportunity to participate in the defense of such claim and any negotiated settlement agreement or judgment. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph. Any indemnification of the Contractor shall be subject to appropriation and applicable law.

**12. Waivers.** Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable

remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach.

**13. Risk Of Loss.** The Contractor shall bear the risk of loss for any Contractor materials used for a Contract and for all deliverables, Department personal or other data which is in the possession of the Contractor or used by the Contractor in the performance of a Contract until possession, ownership and full legal title to the deliverables are transferred to and accepted by the Department.

**14. Forum, Choice of Law And Mediation.** Any actions arising out of a Contract shall be governed by the laws of Massachusetts, and shall be brought and maintained in a State or federal court in Massachusetts which shall have exclusive jurisdiction thereof. The Department, with the approval of the Attorney General's Office, and the Contractor may agree to voluntary mediation through the Massachusetts Office of Dispute Resolution (MODR) of any Contract dispute and will share the costs of such mediation. No legal or equitable rights of the parties shall be limited by this Section.

**15. Contract Boilerplate Interpretation, Severability, Conflicts With Law, Integration.** Any amendment or attachment to any Contract which contains conflicting language or has the affect of a deleting, replacing or modifying any printed language of these Commonwealth Terms and Conditions, as officially published by ANF, CTR and OSD, shall be interpreted as superseded by the official printed language. If any provision of a Contract is found to be superseded by state or federal law or regulation, in whole or in part, then both parties shall be relieved of all obligations under that provision only to the extent necessary to comply with the superseding law, provided however, that the remaining provisions of the Contract, or portions thereof, shall be enforced to the fullest extent permitted by law. All amendments must be executed by the parties in accordance with Section 1. of these Commonwealth Terms and Conditions and filed with the original record copy of a Contract as prescribed by CTR. The printed language of the Standard Contract Form, as officially published by ANF, CTR and OSD, which incorporates by reference these Commonwealth Terms and Conditions, shall supersede any conflicting verbal or written agreements relating to the performance of a Contract, or attached thereto, including contract forms, purchase orders or invoices of the Contractor. The order of priority of documents to interpret a Contract shall be as follows: the printed language of the Commonwealth Terms and Conditions, the Standard Contract Form, the Department's Request for Response (RFR) solicitation document and the Contractor's Response to the RFR solicitation, excluding any language stricken by a Department as unacceptable and including any negotiated terms and conditions allowable pursuant to law or regulation.

**IN WITNESS WHEREOF,** The Contractor certify under the pains and penalties of perjury that it shall comply with these Commonwealth Terms and Conditions for any applicable Contract executed with the Commonwealth as certified by their authorized signatory below:

**COMMONWEALTH OF MASSACHUSETTS**  
**CONTRACTOR AUTHORIZED SIGNATORY LISTING**



**CONTRACTOR LEGAL NAME :**

**CONTRACTOR VENDOR/CUSTOMER CODE:**

CONTRACTOR AUTHORIZED SIGNATORY: \_\_\_\_\_

(signature)

Print Name: Scott Jensen \_\_\_\_\_

Title: Selectman \_\_\_\_\_

Date: \_\_\_\_\_

(Check One): \_\_\_\_\_ Organization \_\_\_\_\_ Individual

Full Legal Organization or Individual Name: Town of Monterey \_\_\_\_\_

Doing Business As: Name (If Different): \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ FAX: \_\_\_\_\_

**INSTRUCTIONS:** Any Contractor (other than a sole-proprietor or an individual contractor) must provide a listing of individuals who are authorized as legal representatives of the Contractor who can sign contracts and other legally binding documents related to the contract on the Contractor's behalf. In addition to this listing, any state department may require additional proof of authority to sign contracts on behalf of the Contractor, or proof of authenticity of signature (a notarized signature that the

# COMMONWEALTH OF MASSACHUSETTS

## CONTRACTOR AUTHORIZED SIGNATORY LISTING



**CONTRACTOR LEGAL NAME :**

**CONTRACTOR VENDOR/CUSTOMER CODE:**

Department can use to verify that the signature and date that appear on the Contract or other legal document was actually made by the Contractor's authorized signatory, and not by a representative, designee or other individual.)

**NOTICE:** *Acceptance of any payment under a Contract or Grant shall operate as a waiver of any defense by the Contractor challenging the existence of a valid Contract due to an alleged lack of actual authority to execute the document by the signatory.*

For privacy purposes **DO NOT ATTACH** any documentation containing personal information, such as bank account numbers, social security numbers, driver's licenses, home addresses, social security cards or any other personally identifiable information that you do not want released as part of a public record. The Commonwealth reserves the right to publish the names and titles of authorized signatories of contractors.

AUTHORIZED SIGNATORY NAME	TITLE

# COMMONWEALTH OF MASSACHUSETTS

## CONTRACTOR AUTHORIZED SIGNATORY LISTING



**CONTRACTOR LEGAL NAME :**

**CONTRACTOR VENDOR/CUSTOMER CODE:**

I certify that I am the President, Chief Executive Officer, Chief Fiscal Officer, Corporate Clerk or Legal Counsel for the Contractor and as an authorized officer of the Contractor I certify that the names of the individuals identified on this listing are current as of the date of execution below and that these individuals are authorized to sign contracts and other legally binding documents related to contracts with the Commonwealth of Massachusetts on behalf of the Contractor. I understand and agree that the Contractor has a duty to ensure that this listing is immediately updated and communicated to any state department with which the Contractor does business whenever the authorized signatories above retire, are otherwise terminated from the Contractor's employ, have their responsibilities changed resulting in their no longer being authorized to sign contracts with the Commonwealth or whenever new signatories are designated.

---

Date:

Signature

Title:

Telephone:

Fax:

Email:

[Listing cannot be accepted without all of this information completed.]

A copy of this listing must be attached to the "record copy" of a contract filed with the department.



**COMMONWEALTH OF MASSACHUSETTS**  
**CONTRACTOR AUTHORIZED SIGNATORY LISTING**



**CONTRACTOR LEGAL NAME :**  
**CONTRACTOR VENDOR/CUSTOMER CODE:**

---

**PROOF OF AUTHENTICATION OF SIGNATURE**

---

**This page is optional and is available for a department to authenticate contract signatures. It is recommended that Departments obtain authentication of signature for the signatory who submits the Contractor Authorized Listing.**

**This Section MUST be completed by the Contractor Authorized Signatory in presence of notary.**

Signatory's full legal name (print or type):

Title:

**X** \_\_\_\_\_

Signature as it will appear on contract or other document (**Complete only in presence of notary**):

**AUTHENTICATED BY NOTARY OR CORPORATE CLERK (PICK ONLY ONE) AS FOLLOWS:**

I, \_\_\_\_\_ (NOTARY) as a notary public certify that I witnessed the signature of the aforementioned signatory above and I verified the individual's identity on this date: \_\_\_\_\_, 20 \_\_\_\_\_.

My commission expires on:

**AFFIX NOTARY SEAL**

I, \_\_\_\_\_ (CORPORATE CLERK) certify that I witnessed the signature of the aforementioned signatory above, that I verified the individual's identity and confirm the individual's authority as an authorized signatory for the Contractor on this date:

\_\_\_\_\_, 20 \_\_\_\_\_.

**AFFIX CORPORATE SEAL**

## Request for Taxpayer Identification Number and Certification

Completed form should be  
given to the requesting  
department or the department  
you are currently doing  
business with.

**Name** (List legal name, if joint names, list first & circle the name of the person whose TIN you enter in Part I-See Specific Instruction on page 2)

**Business name**, if different from above. (See Specific Instruction on page 2)

Check the appropriate box: ☐ Individual/Sole proprietor ☐ Corporation ☐ Partnership ☐ Other ▶

**Legal Address:** number, street, and apt. or suite no.

**Remittance Address:** if different from legal address number, street, and apt. or suite no.

**City, state and ZIP code**

**City, state and ZIP code**

Phone # ( )

Fax # ( )

Email address:

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instruction on page 2. For other entities, it is your employer identification number (EIN). If you do not have a number, see How to get a TIN on page 2.

**Note:** If the account is in more than one name, see the chart on page 2 for guidelines on whose number to enter.

**Social security number**

□□□-□□-□□□□

OR

**Employer identification number**

□□-□□□□□□

**DUNS**

□□□□□□□□

**Vendors:**

Dunn and Bradstreet Universal Numbering System (DUNS)

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Services (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am an U.S. person (including an U.S. resident alien).
4. I am currently a Commonwealth of Massachusetts's state employee: (check one): No ☐ Yes ☐ If yes, in compliance with the State Ethics Commission requirements.

**Certification instructions:** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply.

**Sign  
Here**

**Authorized Signature ▶**

**Date ▶**

### Purpose of Form

A person who is required to file an information return with the IRS must get your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or debt, or contributions you made to an IRA.

**Use Form W-9 only if you are a U.S. person** (including a resident alien), to give your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify the TIN you are giving is correct (or you are waiting for a number to be issued).
2. Certify you are not subject to backup withholding

**If you are a foreign person, use the appropriate Form W-8.** See Pub 515, Withholding of Tax on Nonresident Aliens and Foreign Corporations.

**What is backup withholding?** Persons making certain payments to you must withhold a designated percentage, currently 28% and pay to the IRS of such payments under certain

conditions. This is called "backup withholding." Payments that may be subject to backup withholding include interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

If you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return, payments you receive will not be subject to backup withholding. **Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester, or
2. You do not certify your TIN when required (see the Part II instructions on page 2 for details), or
3. The IRS tells the requester that you furnished an incorrect TIN, or
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See the Part II instructions on page 2.

### Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of Federal law, the requester may be subject to civil and criminal penalties.



COMMONWEALTH OF MASSACHUSETTS  
OFFICE OF THE COMPTROLLER  
Electronic Funds Transfer Sign Up Form

This form should be sent to a department with whom you do business.

Request type must be checked: ☐ Initial Request ☐ Changing Existing Account ☐ Closing Account

I \_\_\_\_\_, hereby certify that the account/s indicated on this form is under my direct control and access; therefore, I authorize the State Treasurer as fiscal agent for the State of Massachusetts to initiate, change or cancel credit entries to that account/s as indicated on this form. For ACH debits consistent with the International ACH Transaction (IAT) rules check one:

☐ I affirm that payments authorized hereunder are not to an account that is subject to being transferred to a foreign bank account.

☐ I affirm that payments authorized hereunder are to an account that is subject to being transferred to a foreign bank account.

This authority is to remain in full force and effect until the Office of Comptroller has received written notification from either me or an authorized officer of organization of the account's termination in such time and in such a manner as to afford CTR a reasonable opportunity to act upon it.

VENDOR BANK INFORMATION

Vendor Bank Name: \_\_\_\_\_  
Vendor Bank Transit Number (ABA): \_\_\_\_\_  
Vendor Bank Account Number: \_\_\_\_\_  
Account Type: \_\_\_\_\_

Filling out this field is a requirement for changing account number

Vendor Bank Old Account Number: \_\_\_\_\_  
Account Type: \_\_\_\_\_

VENDOR INFORMATION

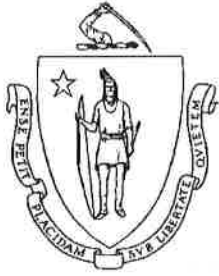
Vendor Tax Identification Number (TIN): \_\_\_\_\_  
Vendor/Business Name: \_\_\_\_\_  
Vendor Contact Name: \_\_\_\_\_  
E-mail: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

This authorization will remain in effect until either canceled in writing or an updated form changing information is sent to the Department you currently do business with.

AUTHORIZED SIGNATURE: \_\_\_\_\_  
Print Name: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Form forwarded to Commonwealth Department: \_\_\_\_\_  
Attached voided check here:





## COMMONWEALTH OF MASSACHUSETTS Prompt Pay Discount Form

(Invoice discounts for receiving fast payments)

Revised 3/9/07

**Bidder Name:** \_\_\_\_\_

**Vendor Code (VCUST):** \_\_\_\_\_

**Contract/RFR Number(s):** \_\_\_\_\_

Prompt Payment Discounts (PPD). All contractors/vendors doing business with the Commonwealth must provide a Prompt Payment Discount (PPD) for receiving early payments unless the Contractor/vendor can provide compelling proof that providing a prompt pay discount would be unduly burdensome. Contractors benefit from PPD by increased, usable cash flow as a result of fast and efficient payments for commodities or services rendered. Contractors who agree to accept Electronic Funds Transfer (EFT) increase the prompt pay benefit by ensuring that funds are paid directly to their designated bank accounts, thus eliminating the delay of check clearance policies and traditional mail lead time. Payments processed through the state accounting system (MMARS) can be tracked and verified through the Comptroller's Vendor Web system using the Vendor/Customer Code assigned to you by a Commonwealth department.

The Commonwealth benefits because contractors reduce the cost of products and services through the applied discount. While Bidders/Contractors have flexibility in determining the actual % discount(s) offered to the Commonwealth, the discount(s) must be identified for 10, 15, 20 and/or 30 days for payment issuance in the column entitled "% Discount Off Proposed Price" below. The Commonwealth may use the prompt pay discounts submitted as a basis for selection and may negotiate discounts as deemed in the best interest of the Commonwealth. The requirement to offer PPD discounts may be waived by the Commonwealth on a case-by-case basis if participation in the program would be unduly burdensome, provided the specific reason for the hardship is outlined below.

All discounts offered will be taken in cases where the payment issue date is within the specified number of days listed below and in accordance with the Commonwealth's Bill Paying Policy. Payment days will be measured **from** the date goods are received and accepted / performance was completed OR the date an invoice is received by the Commonwealth, whichever is later to the date the payment is issued as an EFT (preferred method) or mailed by the State Treasurer. The date of payment "issue" is the date a payment is considered "paid" not the date a payment is "received" by a Contractor.

If internal Bidder/Contractor systems require an alternate method of measuring payment issue dates, the Bidder/Contractor must note the issues below or on an attached page if necessary to be considered by the PMT. In cases where the Bidder/Contractor considers that offering a Prompt Payment Discount would be a hardship, the Bidder must clearly define the issues and reasons for said hardship. *Providing volume discounts or other discounts on prices is not considered a hardship, since the PPD provides the additional benefit of early cash flow for the Contractor.*

Enter the Prompt Payment Discount percentage (%) off the invoice payment, for each of the payment issue dates listed, if the payment is issued within the specified Payment Issue days.

If no discount is offered enter 0%

<b>Prompt Payment Discount %</b>	<b>Payment Issue Date w/in</b>
<b>3%</b>	<b>10 Days</b>
<b>2%</b>	<b>15 Days</b>
<b>1%</b>	<b>20 Days</b>
<b>0%</b>	<b>30 Days</b>

The Contractor is unable to provide a prompt payment discount due to the following hardship:

Contractor/Bidder Authorized Signature \_\_\_\_\_

Date: \_\_\_\_\_

Contractor/ Bidder Authorized Signatory Print Name and Title:

\_\_\_\_\_

