**Contract No. EP-C-08-018**

**Work Plan for Work Assignment No. 2-20**

1.0 Work Assignment Title:
Stormwater Utility Feasibility Evaluation

2.0 Work Assignment Requested By:
United States Environmental Protection Agency

3.0 Date of Original Request:
September 21, 2010

4.0 Date of Work Assignment Initiation:
September 21, 2010

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**Work Plan**
**Stormwater Utility Feasibility Evaluation**
**Work Assignment 2-20**
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## 1.0 Introduction

This Work Plan describes work to be conducted to fulfill the requirements of Work Assignment 2-20.

## 2.0 Background

The Charles River is one of the most historically and culturally significant rivers in the United States. The headwaters of the Charles River are in Hopkinton, Massachusetts. From there, the river flows through the municipalities or Milford, Bellingham, Franklin, and then numerous downstream communities. The river eventually flows between Boston and Cambridge before emptying into Boston Harbor. The river and its adjacent parkland are widely used for recreation, including windsurfing, sailing, and rowing. However, the river has a history of severe water quality problems.

Although much has been done to reduce bacterial contamination, the Charles continues to be impaired by discharges of polluted stormwater. In particular, discharges of phosphorous have caused dramatic plant and algae growth in the river, including large blooms of toxic algae.

Sources of phosphorus in the Charles River are numerous and include dust and dirt, decaying organic matter, lawn fertilizers, soils, engine exhaust, and pet waste. Phosphorus tends to collect on impervious surfaces, such as pavement and roofs, and is then carried to the river by stormwater runoff. Land uses with a high percentage of impervious surfaces tend to contribute a proportionally high volume of phosphorus to the river. Those same areas also contribute a high volume of other pollutants such as pathogens and metals. The control technologies that will reduce phosphorus will also reduce loads of these other pollutants.

The Clean Water Act authorizes EPA to control stormwater pollution by designating certain categories of stormwater discharges as requiring Clean Water Act permits. For example, EPA may require permits for discharges which contribute to violations of water quality standards, or which are needed to implement a "total maximum daily load" (TMDL) for an impaired water. Massachusetts Department of Environmental Protection (MassDEP) and EPA established a TMDL for discharges of phosphorus into the lower Charles River. A TMDL determines how much of a pollutant a body of water can assimilate without exceeding its water quality standard for that pollutant. A portion of this TMDL assigns a load to the Charles River above the Watertown Dam. This load from the watershed upstream of the Dam needs to be reduced by 48% to meet the TMDL. The Regional Administrator of EPA Region I has made a preliminary decision that a more stringent small municipal separate storm sewer system (MS4) general permit with phosphorus reduction requirements, and a residual designation general permit to reduce stormwater discharge from industrial, commercial, and large residential properties are

necessary to meet the TMDL. For properties subject to the residual designation, permits will be required for facilities which discharge stormwater from two or more acres of impervious surfaces, including roofs and paved areas. The proposed residual designation general permit addresses facilities in the Charles River watershed which are located within the municipalities of Milford, Bellingham, and Franklin, Massachusetts. The successful control of stormwater discharges within the towns of Milford, Bellingham, and Franklin will depend upon the availability of funding, and the coordination and implementation of structural and non-structural stormwater best management practices (BMPs).

A stormwater utility can be an effective approach to management and funding of stormwater-related controls generally; for the towns of Franklin, Bellingham, and Milford, one or more stormwater utilities may well be essential for reducing the costs of BMP implementation. In fact, the proposed residual designation general permit contains a provision for creation of a Certified Municipal Phosphorus Program (CMPP). A stormwater utility or similar structure could serve as a mechanism to optimize a coordinated implementation of the MS4 and Residual Designation permits. The cost of a CMPP could be funded by a stormwater utility. The purpose of this project is to evaluate the feasibility of and provide recommendation and facilitation for establishing one or more stormwater utilities for the Upper Charles River communities of Bellingham, Franklin, and Milford, Massachusetts.

The completion of this project will likely facilitate reductions in phosphorus loading to the Upper Charles River basin (including wetlands, ponds, lakes, tributaries, as well as the main stem of the Charles River) by virtue of a more coordinated implementation of the TMDL. It is also likely to facilitate a reduction of other pollutants, including nitrogen, sediment, and bacteria, and provide for recharge of groundwater aquifers for drinking water and other uses. Lastly, this project will likely inform and otherwise be used as a model for the formation of stormwater utilities elsewhere in the region and nation.

For the purposes of this work assignment, "stakeholders" refers to and may include representatives of Massachusetts Department of Environmental Protection (DEP), the municipalities of Franklin, Bellingham, and Milford, Massachusetts, representatives of privately-owned facilities within the municipalities, and other interested parties as appropriate (e.g., elected officials).

The primary purpose of this Work Assignment (WA) is, within a collaborative framework that will include EPA New England, DEP, and the Upper Charles River communities of Bellingham, Franklin and Milford, Massachusetts, to develop a stormwater utility feasibility report which shall include recommendations on the mechanics of formation feasibility of establishing one or more stormwater utilities. The Stormwater Utility Feasibility Report shall be structured so that utility recommendations can be transferred to other Charles River watershed municipalities. The end of the period of performance for this WA is May 31, 2011. A new WA will be initiated if the time for this project is estimated to be greater than the approximate eight-month period of performance under this contract and WA.

Horsley Witten Group, Inc. (HW) has included AMEC Earth & Environmental, P.C. as a sub-consultant to support our services. AMEC is among the most experienced consultants in the field of stormwater utility assessment and implementation on the national level and also has local experience. Taken together with HW's significant stormwater management policy, assessment, design and implementation experience our team will provide EPA with a highly qualified consulting expertise to undertake this WA. In addition, and as included in the WA, HW has identified the potential to include local and regional experts who have first-hand experience in applying stormwater utilities on the individual municipal level and the regional scale.

## 3.0 Statement of Work and Technical Implementation Plan

HW prepared the following Work Plan (WP) in response to WA 2-20, for "Stormwater Utility Feasibility Evaluation," describing our proposed approach to completing all of the tasks in the WA. HW will provide technical assistance to EPA Region 1 by developing, within a collaborative framework, a feasibility evaluation including recommendations for establishing one or more stormwater utilities for the Upper Charles River communities of Bellingham, Franklin and Milford, Massachusetts. This WP includes a description of all assumptions made by HW as part of the Statement of Work (Section 3), a proposed Schedule of Deliverables (Section 4), a Staffing Plan showing the role of each person in the performance of each task (Section 5), an Estimated Budget (Section 6), Assumptions (Section 7), Contingencies (Section 8), Special Reporting Requirements (Section 9), and Quality Assurance Surveillance Plan (Section 10).

The tasks in this WA do not require environmental measurements, nor do they involve the use of secondary data. Therefore, in accordance with EPA's quality assurance (QA) requirements, no project-specific quality assurance project plan (QAPP) is required.

### Task 0: Work Plan and Budget Development

HW will prepare a detailed WP and budget that describes how the indicated tasks will be accomplished in accordance with the clause WA (EPAAR 1552.211-74). This WP includes a description of: proposed staff, the number of hours and labor classifications proposed for each task (Section 5), and a list and schedule of deliverables and deadlines (Section 4).

Under this task, HW will also conduct bi-weekly telephone conferences between the Work Assignment Manager (WAM) and the HW Work Assignment Leader (WAL), each approximately 1 hour in duration, to coordinate and confirm task performance. HW will also submit monthly progress and financial reports with each invoice to report on progress achieved during the previous 30 days, as well as anticipated progress and labor over the subsequent 30 days.

### Task 1: Scoping Meetings

Subtask 1.1 Scoping Meetings with EPA and Project Stakeholders

HW,, with the assistance of AMEC, will prepare for and attend two meetings in each municipality. Scoping meetings may include representatives from EPA, DEP, as well as representatives from each of the municipalities of Bellingham, Franklin, and Milford, Massachusetts (and possibly others). HW will prepare meeting agendas and announcements at least three working days prior to each meeting.

Subtask 1.1 and Subtask 2.1(alternate): Per Meeting Cost

Because of the anticipated highly collaborative nature of this project, the actual number of meetings that will be required is uncertain and could change depending upon needs and circumstances; at least two additional meetings with each town are possible (refer to outline of potential meetings below). HW has, therefore, included in its budget a per-meeting cost based on time and travel to Bellingham, Franklin, and/or Milford, Massachusetts, as well as note taking and meeting summary preparation. HW has assumed that up to four hours will be required per meeting (not including travel time) and that each meeting will be held in person at Bellingham, Franklin, and/or Milford, Massachusetts. Depending on circumstances, some meetings may be held by teleconference. EPA will determine and coordinate the most appropriate time and location (e.g., Bellingham, Franklin or Milford, Massachusetts) for all meetings based on input from all stakeholders.

*Potential Content of Stakeholder Scoping Meetings:*
Meeting 1: One-on-One Town Meetings for Project Kickoff (goals of the project, preliminary project outline, stormwater finance background, and examples of regional approaches); and
Meeting 2: Joint Stakeholder Meeting to Finalize Project Outline (finalize outline based on individual Town meetings, roles/responsibilities, milestones & schedule and review project fact sheet).

Subtask 1.2: Scoping Meeting Documentation
HW will memorialize each meeting in writing and create a meeting summary containing notes of stakeholder discussion(s) during the scoping meetings, and the outcomes/action items, recommendations, and/or conclusions from each scoping meeting. HW will provide the Scoping Meeting Documentation to the EPA WAM for review and approval.

## Task 2: Conduct Stormwater Utility Feasibility Evaluation and Stakeholder Review Meetings

HW will conduct a feasibility evaluation for establishing one or more stormwater utility(ies) for the Upper Charles River communities of Bellingham, Franklin, and Milford, Massachusetts in accordance with this WP and as potentially modified following the scoping meetings completed in Task 1.

Subtask 2.1: Stormwater Utility Feasibility Evaluation

For purposes of conducting the Stormwater Utility Feasibility Evaluation, HW will, at a minimum, refer to a November 1998 guidance developed by the Massachusetts Pioneer Valley

Planning Commission (PVPC) entitled, "How to Create a Stormwater Utility (or Stormwater Management Program)." The PVPC issued this detailed guide to establishing a stormwater utility to operate and maintain a community's or area's stormwater management infrastructure.

HW will also review and consider the following resources:

- Provisions in the Residual Designation permit and its fact sheet that relate to the formation and functioning of a CMPP.
- The draft general permit and fact sheet for residually designated discharges in Bellingham, Franklin, and Milford, Massachusetts.
- Information that may be available from stormwater utilities or similar structures in other New England jurisdictions, such as Newton, MA, Reading, MA, South Burlington, VT, Lewiston, ME, and the Long Creek Watershed in Maine. EPA can provide information on these utilities, including contact information. Consideration of utilities in jurisdictions outside of the Region may also be relevant or otherwise helpful (e.g., Chesapeake Bay).
- A FY10 Region 1 Wetland Program Development Grant Proposal submitted to EPA Region 1 on May 20, 2010, on behalf of the Towns of Bellingham, Franklin, and Milford, MA (hereafter, "grant proposal").
- A May 2005 report published by the New England Environmental Finance Center, entitled "Stormwater Utility Fees: Considerations & Options for Interlocal Stormwater Working Group (ISWG)."

HW's approach for this task is to define the key "tracks" or areas of concern that the feasibility evaluation will address, define the specific tasks within each track, and incorporate stakeholder meetings at critical stages that will provide the basis of the draft and final reports.

HW will undertake the following specific assignments as part of developing the feasibility evaluation (see Figure 1 for anticipated flow-chart of the evaluation process):

I. <u>Identification of Stormwater Program:</u>
   - One-on-One Town Meetings (DPW & other Town staff) – evaluation of existing stormwater programs, expenditures & problems; touch upon regional efforts, pros & cons of working together *(not included in total budget, but identified as the per-meeting cost);*
   - Summarize each municipality's stormwater needs, issues and goals, and preferred utility structure;
   - Prepare initial GIS-based (possibly using SUSTAIN or more simplified approach) watershed planning assessment (to quantify planning level costs for retrofit implementation as required by RDA and draft Phase II permits);
   - Prepare initial assessment/cost evaluation for developing a Regional Stormwater Management Master Plan, Phosphorus Control Plan (PCP) and/or CMPP;
   - Evaluate governance and administrative considerations for a regional utility and develop a preliminary outline for the preferred regional program;

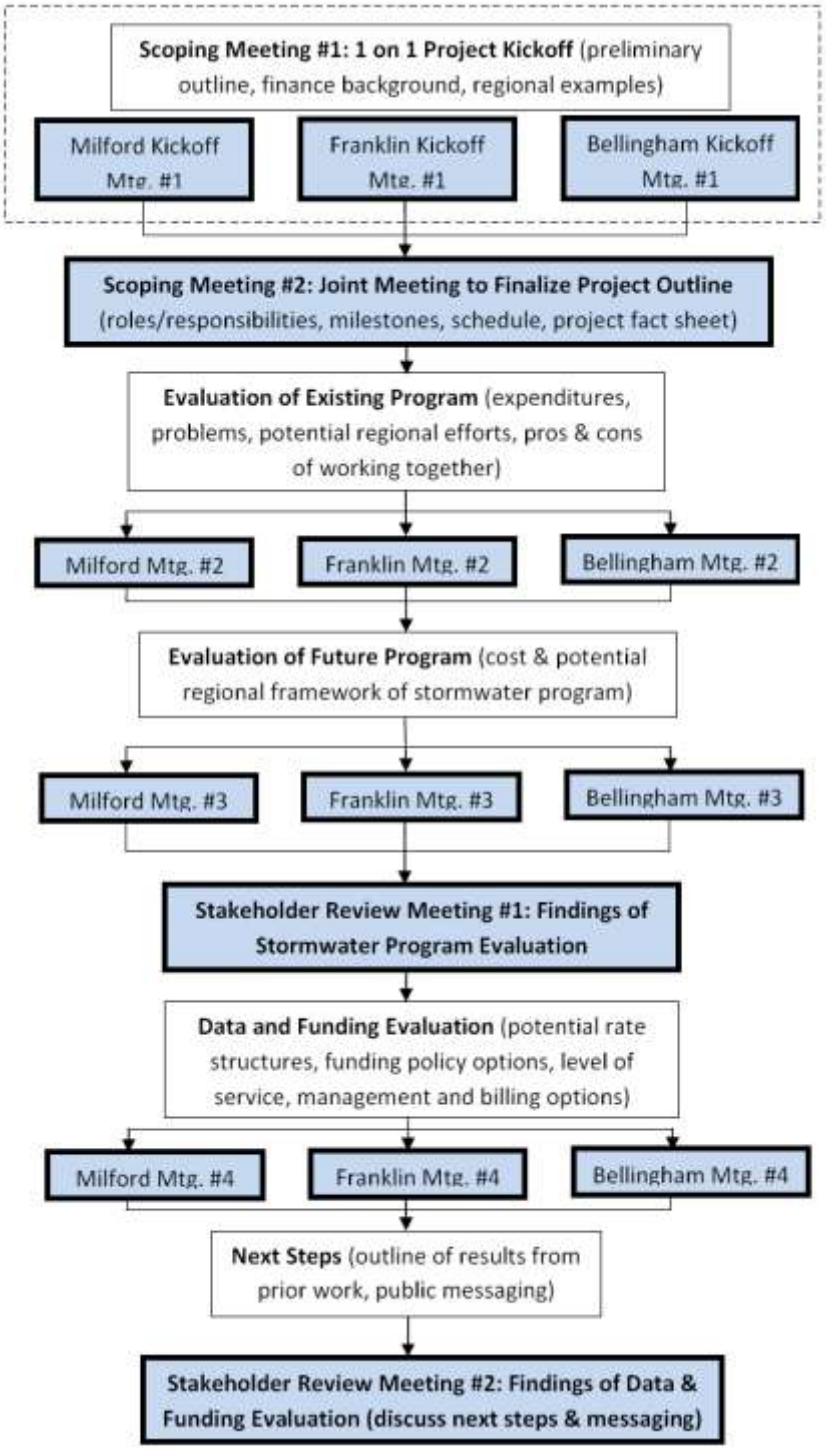
- One-on-One Town Meetings (DPW & other Town staff) – review results of program and cost evaluation *(not included in total budget, but identified as the per-meeting cost);* and
- Stakeholder Review Meeting #1 – presentation of findings, identification & assessment of problem areas, existing programs, and future needs amongst the Towns. Present alternative utility structures (e.g., new regional utility for all three municipalities; alternatives for individual independent utilities for each municipality).

II. Data Evaluation:
- GIS-based analysis of impervious cover, parcel data, aerial imagery, and zoning category to develop preliminary rate methodology;
- Definition and determination of equivalent residential units (ERUs) and billing units (gross estimate of ERUs); and
- Analysis of rate structures appropriate for regional program and consideration of individual community structures.

III. Funding Evaluation:
- Utilize the results of Stakeholder Review Meeting #1, subsequent town meetings and watershed planning assessment to quantify the projected cost of service over a 10-year planning horizon;
- Analyze cost versus revenue, benefits and organizational/management issues of alternative utility structures and systems (for budgeting purposes, assume one new regional entity and up to two alternatives per municipality for local independent utility);
- Evaluate alternative funding options, potential credits, and impact on program revenue; and
- One-on-One Town Meetings (DPW & other Town staff) – review and discuss results of data and funding evaluation thus far, funding policy options, desired level of service, management and billing options *(not included in total budget, but identified as the per-meeting cost);*

IV. Next Steps:
- Outline of potential next steps and considerations (e.g., public messaging) for implementation; and
- Stakeholder Review Meeting #2 – present findings from funding evaluation and finalize next steps.

**Figure 1: Anticipated Project Flow-Chart**



For this project, and because of the Regional Administrator's proposed decision to employ a more stringent permitting approach, it is assumed that a specific integrated public education component or program is not a necessary pre-requisite for conducting Task 2. However, to conduct an effective utility feasibility study, it is necessary to involve key stakeholders from the local municipal government to collect data and discuss policy considerations, for example. Additionally, the above Stakeholder Meetings will be used to develop support (buy-in) for the draft Stormwater Utility Feasibility Evaluation Report.

As specified above, HW will provide for inclusion of a mechanism to plan for the development of a stormwater master plan, a PCP, and/or a CMPP. These plans will provide a framework for the utility to manage watershed activities consistent with proposed permitting requirements to develop geographically-defined wetland protection, restoration, and management plans.

Subtask 2.2: Stakeholder Coordination and Involvement

HW will, as necessary, solicit – or as requested by the WAM, respond to stakeholder input during the conduct of its evaluation. This may include the development of project brochures, white paper documentation, and/or a project website to provide project updates and information to project stakeholders.

As discussed in Subtasks 1.1 and 2.1 above, HW and AMEC will plan to meet with stakeholders at key times during our evaluation. Stakeholder Review Meeting #1 is proposed following the initial meetings with Town Staff and prior to producing a written report and Stakeholder Review Meeting #2 is proposed following completion of the evaluation to review the draft results.

The purpose of Stakeholder Meeting #1 is to provide an opportunity for discussion of any preliminary findings and make any adjustments as appropriate (e.g., based upon preliminary results of the evaluation, it may be prudent or otherwise appropriate to concentrate the remainder of the evaluation on the feasibility and mechanics of a regional stormwater utility rather than separate and independent utilities). EPA will determine the most appropriate time and location for this meeting based on input from all stakeholders.

HW will solicit outside experts (as mutually agreed to by EPA and HW) to prepare presentations and/or offer demonstrations of stormwater utility applications in New England. Under this WP, HW will compensate these experts in accordance with EPA requirements regarding stipends and travel.

The purpose of meeting at the end of the evaluation and prior to development of a written report will be to present and discuss with stakeholders what are the likely conclusions and recommendations of the feasibility evaluation. The results of this meeting will be used to inform stakeholders of evaluation progress and for the development of the Stormwater Utility Feasibility Evaluation Report (Task 3). EPA will determine the most appropriate time and location for this meeting based on the input from all stakeholders.

Subtask 2.3: Stakeholder Meeting Documentation

HW will memorialize each meeting in writing and create a meeting summary containing notes of stakeholder discussion(s) during these meetings and include the outcomes/action items, recommendations, and/or conclusions from each Stakeholder Review Meeting. HW will provide the Stakeholder Review Meeting Documentation to the EPA WAM for review and approval.

*Task 3: Develop Stormwater Utility Feasibility Evaluation Report*

Following the 2nd (or depending on circumstances, the last) Stakeholder Review Meeting to discuss the likely conclusions and recommendations of the feasibility evaluation, HW will develop a draft written report summarizing the findings, conclusions, and recommendations of the stormwater utility feasibility evaluation (Task 2).

HW will use available BMP implementation cost estimates, as refined by both expert professional judgment and any additional relevant information that may become available during conduct of Task 1 or 2, for use in developing recommended stormwater utility rates and rate structures.

The report will be submitted to EPA within forty-five (45) days of the last Stakeholder Review Meeting to discuss likely conclusions and recommendations. The draft report will be submitted in both Microsoft Word and Adobe Acrobat formats. HW will incorporate into the report comments (if any) received from EPA on behalf of all stakeholders. Upon the receipt of comments (if any) from the EPA WAM, HW will re-submit (if necessary) the final report to the EPA WAM.

## 4.0 Schedule and Deliverables

The schedule of work is described below, and is based upon the WA received on September 21, 2010. HW will provide all written deliverables in a hard copy and in an electronic format compatible with the software and hardware currently utilized by the Office of Ground Water and Drinking Water (e.g., MS Word 8.0 or higher, Adobe Acrobat version 6.0).

Please see Table 1 below for schedule and deliverable details.

**Table 1. Schedule and Deliverables**

| TASK | DELIVERABLE | DATE DUE TO EPA |
|---|---|---|
| **0** | Work Plan and Budget Development.<br>Progress and Financial Reports | Work Plan and Budget within twenty (20) days of receipt of Work Assignment (WA).<br>Monthly |
| **1** | Scoping Meetings | |
| **1.1** | Attend minimum of two Scoping Meetings | Scoping Meeting (s): as needed; assume two within 30 days of EPA approval of the WP and budget. |
| **1.2** | Develop Scoping Meeting Documentation | Within seven days of each Scoping Meeting. |
| **2** | Conduct Stormwater Utility Feasibility Evaluation, and Stakeholder Review Meetings | Five months from EPA approval of the Work Plan and budget. |
| **2.2** | Stakeholder Review Meetings | 1st Stakeholder Review Meeting: upon EPA request (approximately three months after EPA approval of the WP and budget).<br><br>2nd Stakeholder Review Meeting: five months after EPA approval of the WP. |
| **2.3** | Develop Stakeholder Review Meeting Documentation | Within seven days of each Stakeholder Review Meeting. |
| **3** | Stormwater Utility Feasibility Evaluation Report | Draft Feasibility Evaluation Report: fifteen (15) days after 2nd or last Stakeholder Review Meeting and EPA approval of 2nd or last Stakeholder Review Meeting.<br><br>Final Feasibility Evaluation report: one month after receipt of all comments from the EPA WAM |

## 5.0 Staffing Plan

The staffing plan for this WA will include personnel with excellent technical, writing, editorial, and organizational skills, as well as having a very strong background in stormwater assessment, policy, design, and implementation. HW staff are presented in Table 2. AMEC staff are presented in Table 2.1.

[redacted]

## 7.0 Assumptions

The following assumptions are used in developing the cost estimate for this project.

- Bi-Weekly telephone conferences between the WAM and the HW WAL to coordinate and confirm task performance will be approximately one hour in duration.
- EPA staff will arrange for location and facility for all municipal and stakeholder meetings;
- The project schedule will require close coordination between the WAM and HW WAL. Comments on HW deliverable products from different parties at EPA will be consolidated into one set of comments for response by HW;
- Scoping, and if authorized, coordination meetings with individual municipalities may occur on the same day to reduce travel time and expenses;
- Municipal data relative to development of cost and revenue assessments (e.g., parcel data, municipal services) will be made available to the consultant team in digital format, where available.

## 8.0 Contingencies

HW will coordinate with the EPA WAM to complete this WA as described above. Any modification to this WA, including revisions and additional tasks directed by the WAM, shall require modification to the budget and delivery schedule.

## 9.0 Special Reporting Requirements

There are no special reporting requirements. HW will immediately report any problems encountered to the EPA WAM.

## 10.0 Quality Assurance Surveillance Plan

This WA is being conducted under HW's Performance Based Contract. As such, all of the tasks in the Statement of Work are subject to review and approval by the EPA WAM based on the general guidelines of the contract quality assurance and surveillance plan. HW will request a review of its performance at the 50% completion level of the project (based on the project schedule) and at the completion of the project. This review will focus on the four review parameters listed in the quality assurance and surveillance plan and include: programmatic requirements, cost control requirements, schedule requirements, and document development requirements. Further details on this review process are contained in HW's contract.