

**PCBs IN CAULK PROJECT**  
***REVISED* WORKPLAN**

**TAKING ACTION FOR CLEAN WATER:**  
**BAY AREA TMDL IMPLEMENTATION**

**Agreement #09-305-550**  
**between the State Water Resources Control Board**  
**and the Association of Bay Area Governments**  
**(ARRA restart of original Prop 50 grant agreement #09-305-550)**

**Revision prepared by San Francisco Estuary Partnership, December 2009**

**Original workplan submitted and approved July 2007**

# **PCBs IN CAULK PROJECT REVISED WORKPLAN**

## **INTRODUCTION**

This workplan describes revisions to activities for the PCBs in Caulk project, which is one part of the San Francisco Estuary Partnership (SFEP)'s grant-funded Taking Action for Clean Water project (Bay Area TMDL Implementation). The original workplan was submitted in July 2007. The revisions to this workplan are based on delays incurred by the state bond freeze and significant progress on the issue of PCBs in caulk since the original workplan submission. The original workplan is included at the end of this document for reference.

The Taking Action for Clean Water project undertakes water quality improvement actions to protect California coastal waters and to implement San Francisco Bay Area TMDLs for sediment, urban pesticides, and polychlorinated biphenyls (PCBs). Taking Action for Clean Water was originally funded by the Proposition 50 Coastal Nonpoint Source Pollution Control Program, and the project commenced in April 2007. California's bond freeze put the project on hold in December 2008. Funding to restart this project has been provided by the American Recovery and Reinvestment Act of 2009 and the Clean Water State Revolving Fund, through an agreement with the State Water Resources Control Board. The PCBs in Caulk Project works to improve management of PCBs that remain in Bay Area structures to prevent release into urban runoff.

The project was originally called the Structural PCBs project. We have changed the name to PCBs in Caulk project for clarity.

## **BACKGROUND**

Elevated PCB levels threaten the health of people and wildlife consuming fish from San Francisco Bay. A TMDL to address PCB impairment of all segments of San Francisco Bay has been adopted by the San Francisco Bay Regional Water Quality Control Board. The San Francisco Bay PCBs TMDL Project Report found that urban runoff was one of the major sources of PCBs loads to the Bay and concluded that controlling PCBs sources in urban runoff was one of two top priorities for TMDL implementation.<sup>1</sup>

Based on this conclusion, the Clean Estuary Partnership (CEP) evaluated available data on sources of PCBs in urban runoff and recommended approaches for addressing two major sources: past PCBs releases that have contaminated soil and sediments and PCB-containing historic building materials, specifically uncontained materials like sealants, caulking and paint.<sup>2</sup> This project builds on the building materials portion of the CEP report.

The CEP report found that when PCB-containing building materials fail or structures in which they occur are remodeled or demolished, PCBs are released onto the ground and can be washed

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<sup>1</sup> San Francisco Bay Water Board (2004). *PCBs in San Francisco Bay*, TMDL Project Report, January 8.

<sup>2</sup> Larry Walker Associates, TDC Environmental, and Ann Blake (2006). *PCB TMDL Implementation Plan Development*. Prepared for CEP.

off by urban runoff. A survey by the Swiss government of 1,348 buildings constructed between 1950 and 1980 found that almost half of the buildings contained PCBs; almost 10% contained sealants with PCB concentrations exceeding 10% by weight; and that the total PCBs reservoir was an estimated 50-150 metric tons.<sup>3</sup> A less rigorous study was conducted in Boston with similar findings.<sup>4</sup> A Swedish study found that significant quantities of PCBs were released into soil and water runoff during building remodeling.<sup>5</sup>

Management practices have been developed that can prevent PCBs releases from building materials into urban runoff.<sup>6</sup> Both the Swiss and Swedish governments have developed active programs to manage PCB-containing building materials in response to public health concerns (related both to direct exposures and to the adverse effect of PCBs on Europe's fisheries).

### PROJECT TEAM AND ROLES

To complete the PCBs in Caulk project, SFEP is partnering with a core project team that includes BASMAA (Bay Area Stormwater Management Agencies Association), the San Francisco Regional Water Quality Control Board, and subcontractors including San Francisco Estuary Institute (SFEI) and TDC Environmental, LLC:

- SFEP will provide project management and coordination, as it does for more than forty projects under a range of local, state, and Federal grants and contracts. SFEP is a project of the Association of Bay Area Governments (ABAG), dedicated to developing and facilitating collaborative regional programs and projects that promote the health of the San Francisco Estuary.
- BASMAA represents and promotes coordinated, consistent stormwater management among urban runoff/stormwater programs for municipalities throughout the Bay Area. BASMAA staff will help coordinate this project with municipal efforts to reduce PCBs in runoff. They will help connect the project to relevant municipal departments such as building permits and inspection. BASMAA staff experience conducting other PCBs studies and projects will inform this project.
- The San Francisco Regional Water Quality Control Board is providing staff input on the project to coordinate with the San Francisco Bay PCBs TMDL and the newly adopted Municipal Regional Permit for Stormwater (MRP, adopted October 14, 2009). The MRP contains stormwater permit regulations for 76 Bay Area municipalities. One requirement of the MRP is for permittees to conduct the same work as outlined in the PCBs in Caulk project, i.e., sample at least ten locations, pilot-test the BMPs, and develop model implementation ordinances or policies.
- SFEI will conduct the scientific assessment of PCB levels in caulk in Bay Area buildings. SFEI is a non-profit organization whose mission is to foster the scientific understanding needed to protect and enhance the San Francisco Estuary and its watershed. Its staff conducts science studies, synthesizes data and information, and collaborates with other scientists to provide a holistic integration of information from many disciplines to support management activities.

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<sup>3</sup> Kohler, M., J. Tremp, et al. (2005). *Environmental Science & Technology* **39**(7): 1967-1973

<sup>4</sup> Herrick, R. F., M. D. McClean, et al. (2004). *Environmental Health Perspectives* **112**(10): 1051-3.

<sup>5</sup> Astebro, A., B. Jansson and U. Bergstrom (2000). *Organohalogen Compounds* **46**: 248-251.

<sup>6</sup> Procedures in other languages have been reviewed and will be translated as appropriate.

- TDC Environmental, LLC is an environmental consulting firm that identified the potential for building materials to be a significant source of PCBs in urban runoff. TDC is providing technical support to SFEP and stakeholders to facilitate effective project implementation based on the latest scientific information
- One additional subcontractor (or team of subcontractors) will be brought on to develop best management practices (BMPs) and an implementation process to prevent release of PCBs from building materials into urban runoff.
- SFEP will convene a stakeholder group that will guide the project and review its products.

### **STAKEHOLDER WORKGROUP**

The stakeholder process for the PCBs in Caulk project includes a workgroup convened by SFEP to assist with project implementation: advising on project direction and review of products. The stakeholder group first met in July 2007 with twenty-plus attendees representing:

- BASMAA
- San Francisco Bay Area municipalities
- Port of San Francisco
- San Francisco Bay Regional Water Board
- California Department of Transportation (Caltrans)
- California Department of Toxic Substances Control
- California Integrated Waste Management Board
- California Office of Environmental Health Hazard Assessment
- U.S. EPA Region 9
- Environmental consultants
- Construction industry
- Environmental nonprofits

A core group will continue to meet periodically to provide guidance during key steps of the project. Ongoing participation is anticipated from (but is not limited to) representatives from U.S. EPA, California Department of Toxic Substances Control, local governments, other agencies, building/construction and demolition industry representatives, and building managers. School districts may join the stakeholder group as well.

Stakeholder meeting points in relation to the development of other products can be found on the new project timeline (following).

## PROJECT STRUCTURE AND REVISIONS

**Project Structure - Original.** The original workplan was approved by the State Water Board in July 2007. It described distinct project phases which were intended to run sequentially, with each successive phase beginning after the preceding phase had been completed. Phases included:

1. The “Local Information Phase,” in which SFEI would obtain Bay Area specific information on the presence of PCBs in historic building materials, to help target management actions specifically to the structures most likely to contain PCBs that threaten water quality.
2. The “BMP Development Phase,” in which the project would develop (BMPs) and a model implementation process (MIP) to prevent release of PCBs from uncontained building materials into urban runoff. Swiss and Swedish management practices would guide development of Bay Area-specific BMPs.
3. The “Pilot Project Phase,” in which BMPs would be piloted in 3-5 municipalities.
4. The “Regional Implementation Phase,” in which phased implementation throughout the region would be pursued, with a long-term target of achieving a 10% reduction in PCBs stormwater loads to the Bay.<sup>7</sup>

The initial workplan noted that in practice, some overlap might exist between these conceptual phases; for example, some might begin before others are complete.

**Rationale for Changes.** The PCBs project has been revised several times, due to difficulties encountered early in the original grant period, the bond freeze period of no work on the project, and external events related to PCBs in caulk that affect this project. Issues and resolutions are summarized below.

*Issue:* An unforeseen obstacle arose early in the grant period: immediate removal and disposal requirements for PCBs in caulk at levels over 50ppm.

- The project team found that since caulk was not explicitly listed as an exempted use under Toxic Substances Control Act, any sampling that found PCBs over 50ppm would trigger a requirement that the PCB-containing material be removed immediately and treated as hazardous waste. Since the project design included testing materials anticipated to contain PCBs at levels that would often far exceed 50ppm, the immediate cleanup and abatement requirements would incur substantial cost and risk for project sampling partners. The project team discussed the original project plans with potential partners, and became concerned that it would be impossible to find partners willing to sample their buildings for PCBs under those conditions.

*Resolution:* Liability concerns were addressed through approval to use a blind sampling method, and by increasing the focus on an indicator screening technique and reducing direct sampling.

- In July 2008, the Grant Manager (Susan Gladstone of the San Francisco Regional Board) issued direction that blind sampling would be acceptable: buildings could be sampled without reporting GPS coordinates or other exact identifiers of location.

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<sup>7</sup> This target is based on information in Larry Walker Associates, TDC Environmental, and Ann Blake (2006).

- A CEP memo<sup>8</sup> developed with the participation of project suggested using a combination of field screening with portable XRF analysis and confirmation sampling with PCBs measurements by an analytical laboratory. Since XRF screening provides an indicator rather than a direct measurement, using XRF would provide some information about potential PCBs levels in Bay Area buildings but would not necessarily trigger cleanup and liability requirements for sampling partners. In addition, the XRF analyzer device could provide a rapid result and was much less expensive than traditional sampling. The project team was working to shift the balance of sampling towards XRF in late 2008, and stakeholders continued investigations during 2009 under non-grant funds.

*Issue:* California's bond freeze in December 2008 delayed project implementation

*Resolution:* The project restarted under ARRA funds in August 2009.

- During the bond freeze, no work took place. Between the grant initiation and the restart, there were numerous turnovers among project staff and stakeholders. Bringing new staff up to speed took time. The project subcontracts also had to be renegotiated.
- The delay also benefited the project in some ways:
  - The project got some external support when the San Francisco Regional Water Board adopted the Municipal Regional Permit (MRP) for Stormwater (October 14, 2009). The MRP (Provision C.12.b) requires its 76 permittees to conduct the same tasks as outlined in this project. This requirement should help reduce the difficulty in finding sampling partners. The MRP requires permittees to implement sampling and analysis at 10 sites around the Bay Area, and to pilot test BMPs at 5 sites around the Bay Area.
  - U.S. EPA began outreach to distribute information about PCBs in caulk in schools. The presence of PCBs in building materials is becoming a widely recognized issue with a higher profile than it had at the start of the project. In September 2009, EPA launched a major campaign for building owners and facilities managers—particularly those at school districts—to test for and manage PCBs in caulk. The increased visibility may help the project team partner with interested school districts or other entities to pilot sampling and BMPs, and renews EPA's commitment to the project.

**Project Structure Revisions.** The project structure is now reframed from sequential phases to concurrent execution of the Local Information and BMPs Development phases, followed by the Pilot Project phase. The attached project timeline illustrates the sequence and timing of the various steps included in the project.

The original sequential structure included a “go/no-go decision” after Phase 1 (Local Information Phase), intended to ensure that enough PCBs in caulk were found locally to justify the pursuing the remaining project phases. The project team met before the bond freeze to discuss concerns about project timing, and with approval from Grant Manager Susan Gladstone decided that a go/no-go decision was not needed in light of the dramatic increase in work and literature on PCBs in caulk in the three years since the original project proposal, including numerous high-profile remediation projects on the East Coast and guidance from U.S. EPA. Based on this

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<sup>8</sup> TDC Environmental, SFEI, et al. (2007). *First Phase Support Information for PCB Portion of Taking Action for Clean Water Grant*. Prepared for CEP.

information it appears safe to assume that PCBs are present in caulking in Bay Area buildings. The Local Information Phase remains in the project, but its purpose is to inform development of management practices by obtaining as much detailed local information as possible about what types of buildings, materials, etc. contain caulking with PCB levels of concern. The revised project structure now has the BMPs and model implementation process being developed concurrently with the local information phase.

In the current organization, implementation trials are scheduled to begin after the BMPs and model implementation process have been developed and been reviewed by the stakeholder group. Restructuring the project allows for maximum time/ flexibility to conduct implementation trials. The economic slowdown has reduced the pace of demolition/renovation activities, so getting started on BMP development earlier allows us to be more opportunistic in seeking sites.

The Regional Implementation Phase has been eliminated from the project because it would not be possible to complete under the remaining time in the grant. The project will prepare for phased regionwide implementation by providing technology transfer to municipalities and appropriate parties and stakeholders. The project team, including BASMAA and the San Francisco Regional Water Quality Control Board, will be involved in discussions regarding next steps for the project after the grant period is completed, including feasibility of regionwide implementation.

In December 2009, SFEP requested extension of the final deadlines from June 2011 to December 2011. These revised end dates will allow meaningful trials of the BMPs developed in earlier phases of the project. The dates listed in the Project Schedule and Deliverables section below are these proposed dates. Some project deadlines have been moved earlier, such as the draft and revised BMPs and draft and revised implementation process.

The project concludes with a final report from SFEI, training materials and technology transfer, and an effectiveness evaluation as part of the final project report by SFEP.



## PROJECT ACTIVITIES AND TASKS

Specific project tasks are listed below. These are taken from the grant agreement and are identified by grant task number.

### 7.5 Decrease Polychlorinated biphenyl (PCB) Contamination in Urban Runoff

#### 7.5.1 Workplan Revision

7.5.1.1 Revise workplan and submit to Project Manager for review.

*[this document]*

7.5.1.2 Complete final workplan in accordance with Project Manager comments.

#### 7.5.2 Obtain Bay Area specific estimates on PCB loadings to urban runoff from historic building materials.

7.5.2.1 Define procedures to identify structures that contain PCBs in their building materials.

7.5.2.2 Conduct field sampling and chemical analysis, as possible.

7.5.2.3 Analyze data and estimate PCB loadings from representative types of structures.

7.5.2.4 Produce draft report and submit for Project Manager review.

7.5.2.5 Complete final report in accordance with Project Manager comments.

#### 7.5.3 Develop written BMP's and Model Implementation Process

7.5.3.1 Convene stakeholder implementation work group comprised of partner representatives, municipal staff, and regulatory agency staff tasked with providing guidance and reviewing drafts of Project deliverables.

7.5.3.2 Research existing regulatory controls/policies related to managing wastes and hazardous materials during building demolition/remodeling programs.

7.5.3.3 Develop proposed best management practices (BMPs) to reduce or prevent discharge of PCBs during building demolition/remodeling. The BMPs will focus on methods to identify PCB-containing building materials and properly manage those materials through aspects such as handling, containing, transport, and disposal. Provide draft BMPs to work group and Project Manager for review.

7.5.3.4 Finalize BMPs in accordance with comments received and submit to Project Manager.

7.5.3.5 Develop implementation process and define circumstances that would trigger BMP implementation including model municipal regulatory controls/policies/ordinances. Develop training materials, including checklist(s), for building inspectors or other municipal staff who will be implementing BMPs. Provide implementation process and training materials to work group and Project Manager for review.

7.5.3.6 Revise implementation process, training materials, and checklist(s) in accordance with comments received and submit to Project Manager.

- 7.5.4 Implement up to five (5) trials using the BMPs and implementation process developed.
  - 7.5.4.1 Identify up to five (5) municipalities willing to work with Project staff and Bay Area Stormwater Management Agencies Association (BASMAA) to perform trials of the implementation process and BMPs, as possible.
  - 7.5.4.2 Implement trials to test and evaluate the BMPs and implementation process, as possible.
  - 7.5.4.3 Include status reports on trials in quarterly progress reports.
- 7.5.5 Prepare for phased region-wide BMP implementation by providing technology transfer to municipalities and other appropriate parties and stakeholders.
  - 7.5.5.1 Revise BMPs implementation process, and training materials based on the lessons learned during the work item 7.5.4 trials. Provide revised BMPs and implementation process to work group and Project Manager for review.
  - 7.5.5.2 Finalize revised BMPs, implementation process, and training materials in accordance with comments received and submit to Project Manager.
  - 7.5.5.3 To prepare for phased region-wide implementation, provide technology transfer to municipalities and other appropriate parties and stakeholders. Submit technology transfer materials to Project Manager.
- 7.5.6 Conduct effectiveness evaluation in accordance with PAEP and submit to Project Manager.

### **PROJECT SCHEDULE AND DELIVERABLES**

The table below reflects the project schedule and deliverables listed in the grant agreement (with date modifications as proposed). SFEP submitted proposed modifications of several due dates in the contract to the Grant Manager in early December 2009. The request included moving out the final deliverables from June 2011 to December 2011. The additional six months are needed to allow for meaningful trials of the BMPs developed in the early phases of the project. Though enrolling project partners is no longer impossible, it will likely remain difficult, since partners will incur additional costs and liability concerns. The additional time will also help us make robust efforts to secure sampling partners.

The vision for the project is to create a foundation for a majority of Bay Area cities to adopt ordinances or policies requiring the use of the BMPs and implementation process developed in this pilot. We believe the date modifications are essential to creating BMPs which can provide meaningful reductions in PCB loading to San Francisco Bay under the PCBs TMDL and which also can be adopted widely in the future rather than shelved because they are considered overly onerous.

Item	DESCRIPTION	ESTIMATED DUE DATE
<b>SCOPE OF WORK</b>		
7.5.1.1	Draft and Final Workplans - Revision	December 2009
7.5.2.4	Draft Report on PCBs in building materials	September 2010
7.5.2.5	Final Report on PCBs in building materials	November 2011
7.5.3.3 7.5.3.4	Draft and Final Preliminary BMPs for PCBs in building materials	September and October 2010
7.5.3.5 7.5.3.6	Draft and Final Preliminary implementation process; model regulatory controls and/or policies; training materials for PCBs in building materials	October and November 2010
7.5.4.3	Status reports on PCB implementation trials	Quarterly
7.5.5.1 7.5.5.2	Draft and Final Revised BMPs, implementation process, training materials for PCBs	September and October 2011
7.5.5.3	Technology transfer materials for PCBs	November 2011
7.5.6	Effectiveness evaluation	December 2011

### **PROJECT EVALUATION**

The Project Assessment and Evaluation Plan (May 2007) provides a plan for evaluating project successes. Evaluation is based on both output and outcome indicators. Output indicators are designed to provide low-cost, easy to measure, quick-response tracking of project activity levels. Outcome indicators involve monitoring of environmental and other types of data that link directly to the goals of each TMDL being implemented. SFEP will report on output indicators in each quarterly project report. Outcome indicators will be assessed at the end of the project; the project outcome evaluation will be included in the in the final project report.

### **CONCLUSION**

This concludes the revised workplan. The original workplan narrative and timeline graphics are included next for reference.

**STRUCTURAL PCBs PROJECT WORKPLAN**

**TAKING ACTION FOR CLEAN WATER:  
BAY AREA TMDL IMPLEMENTATION**

**Agreement #06-342-552-0  
between the State Water Resources Control Board  
and the Association of Bay Area Governments**

**Prepared by:  
TDC Environmental, LLC and the San Francisco Estuary Project**

**July 2007**

## STRUCTURAL PCBs PROJECT WORKPLAN

### INTRODUCTION

This is a workplan for the polychlorinated biphenyls (PCBs)-related actions that comprise a portion of a larger San Francisco Estuary Project (SFEP) grant-funded program, the Taking Action for Clean Water Project. The Taking Action for Clean Water Project will implement water quality improvement actions to protect California coastal waters with Proposition 50 Coastal Nonpoint Source funding. Among the actions to be implemented under the Taking Action for Clean Water Project are activities to improve management of PCBs that remain in Bay Area structures to prevent release into urban runoff; these actions are called the “Structural PCBs Project.”

### PROJECT OVERVIEW

**Background.** Elevated PCB levels threaten the health of people and wildlife consuming fish from San Francisco Bay. A TMDL to address PCB impairment of all segments of San Francisco Bay is in development. The San Francisco Bay PCBs TMDL Project Report found that urban runoff was one of the major sources of PCBs loads to the Bay and concluded that controlling PCBs sources in urban runoff was one of two top priorities for TMDL implementation.<sup>1</sup>

Based on this conclusion, the Clean Estuary Partnership (CEP) evaluated available data on sources of PCBs in urban runoff and recommended approaches for addressing past PCBs releases that have contaminated soil and sediments and PCB-containing historic building materials, specifically uncontained materials like sealants, caulking and paint.<sup>2</sup> This project builds on the structural PCBs portion of the CEP report.

The CEP report found that when PCB-containing building materials fail or structures are remodeled or demolished, PCBs are released onto the ground and can be washed off by urban runoff. A survey by the Swiss government of 1,348 buildings constructed between 1950 and 1980 found that almost half of the buildings contained PCBs; almost 10% contained sealants with PCB concentrations exceeding 10% by weight; and that the total PCBs reservoir was an estimated 50-150 metric tons.<sup>3</sup> A less rigorous study was conducted in Boston with similar findings.<sup>4</sup> A Swedish study found that significant quantities of PCBs were released into soil and water runoff during building remodeling.<sup>5</sup>

Management practices have been developed that can prevent PCBs releases from structural materials into urban runoff.<sup>6</sup> Both the Swiss and Swedish governments have developed active programs to manage PCB-containing building materials in response to

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<sup>1</sup> San Francisco Bay Water Board (2004). *PCBs in San Francisco Bay*, TMDL Project Report, January 8.

<sup>2</sup> Larry Walker Associates, TDC Environmental, and Ann Blake (2006). *PCB TMDL Implementation Plan Development*. Prepared for CEP.

<sup>3</sup> Kohler, M., J. Tremp et al. (2005). *Environmental Science & Technology* **39**(7): 1967-1973

<sup>4</sup> Herrick, R. F., M. D. McClean, et al. (2004). *Environmental Health Perspectives* **112**(10): 1051-3.

<sup>5</sup> Astebro, A., B. Jansson and U. Bergstrom (2000). *Organohalogen Compounds* **46**: 248-251.

<sup>6</sup> These procedures are in German, French, and Swedish; they have been reviewed and will be translated as appropriate.

public health concerns (related both to direct exposures and to the adverse effect of PCBs on Europe's fisheries).

**Project Team.** To complete the Structural PCBs Project, SFEP will partner with BASMAA (Bay Area Stormwater Management Agencies Association) and the San Francisco Estuary Institute (SFEI) to develop and implement a best management practices (BMPs)-based source reduction program to prevent release of PCBs from building materials into urban runoff. TDC Environmental, LLC is providing technical support to SFEP and stakeholders to facilitate effective project implementation based on the latest scientific information. SFEP will convene a stakeholder group that it will engage in the project.

**Four Project Phases.** The Structural PCBs Project will be implemented in four phases.

- In the first phase (the “Local Information Phase”), the San Francisco Estuary Institute will obtain Bay Area specific information on the presence of PCBs in historic building materials. Obtaining Bay Area-specific information will allow management actions to be targeted specifically to the structures most likely to contain PCBs that threaten water quality.
- Using the Swiss and Swedish management practices as a guide, the Taking Action for Clean Water Project will partner with the Bay Area Stormwater Management Agencies Association (BASMAA) and its member cities to develop Bay Area-specific best management practices (BMPs) and a model implementation process (MIP) to prevent release of PCBs from unregulated, uncontained building materials (such as sealants and paints) into urban runoff (the “BMP Development Phase”).
- In the “Pilot Project Phase,” BMPs will be piloted in 3-5 municipalities.
- Subsequently, regionwide phased implementation will be pursued (the “Regional Implementation Phase”), with a long-term target of achieving a 10% reduction in PCBs stormwater loads to the Bay.<sup>7</sup>
- At the end of the grant-funded portion of the project, SFEP will evaluate project outcomes and complete a final project report.

Please note that some overlap may exist between these phases; for example, SFEP and its partners may begin working with potential sites for the pilot phase of the project before the BMP Development Phase is complete. The attached **Structural PCBs Project Overview** figure provides the framework for the project, lays out the overall project schedule, and shows how the project relates to pre-project activities funded by other agencies.

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<sup>7</sup> This target is based on information in Larry Walker Associates, TDC Environmental, and Ann Blake (2006).

## PROJECT ACTIVITIES AND TASKS

Specific project tasks are listed below. These are taken from the grant agreement and are identified by grant task number.

- 6.1 Develop Workplan for Task 6 [*This document*]
  - 6.1.1 Prepare draft workplan and submit for Grant Manager review and approval.
  - 6.1.2 Complete final workplan in accordance with Grant Manager comments.
  
- 6.2 Obtain Bay Area specific information on PCB loadings to urban runoff from historic building materials.
  - 6.2.1 Define procedures to identify structures that contain PCBs in their building materials.
  - 6.2.3 Conduct field sampling and chemical analysis.
  - 6.2.4 Analyze data and estimate PCB loadings from representative types of structures.
  - 6.2.5 Produce draft report and submit for Grant Manager review and approval.
  - 6.2.6 Complete final report in accordance with Grant Manager comments.
  
- 6.3 Develop written BMP's and Model Implementation Process
  - 6.3.1 Convene stakeholder implementation work group comprised of partner representatives, municipal staff, and regulatory agency staff tasked with providing guidance and reviewing drafts of project deliverables.
  - 6.3.2 Research existing regulatory controls/policies related to managing wastes and hazardous materials during building demolition/remodeling programs. Task may include review of regulations re: PCBs in solid waste.
  - 6.3.3 Develop proposed best management practices (BMPs) to reduce or prevent discharge of PCBs during building demolition/remodeling. The BMPs will focus on methods to identify, handle, contain, transport, and properly dispose of PCB-containing building materials. Task may include collecting and reviewing existing dust control BMPs. Provide draft BMPs to work group and Grant Manager for review.
  - 6.3.4 Finalize BMPs in accordance with comments received and submit for Grant Manager approval.
  - 6.3.5 Develop implementation process to define circumstances that would trigger BMP implementation including model municipal regulatory controls/policies. Develop training materials, including checklist(s), for building inspectors or other municipal staff who will be implementing BMPs. Provide implementation process and training materials to work group and Grant Manager for review.

- 6.3.6 Revise implementation process, training materials, and checklist(s) in accordance with comments received and submit for Grant Manager approval.
- 6.4 Implement three (3) to five (5) trials using the BMP's and implementation process developed.
  - 6.4.1 Identify three (3) to five (5) municipalities willing to work with project staff and BASMAA to perform trials of the implementation process and BMPs.
  - 6.4.2 Implement trials to test and evaluate the BMPs and implementation process.
  - 6.4.3 Include status reports on trials in quarterly progress reports.
- 6.5 Conduct phased region-wide implementation and provide technology transfer to municipalities and other appropriate parties and stakeholders.
  - 6.5.1 Revise BMPs implementation process, and training materials based on the lessons learned during the work item 6.4 trials. Provide revised BMPs and implementation process to work group and Grant Manager for review
  - 6.5.2 Finalize revised BMPs, implementation process, and training materials in accordance with comments received and submit for Grant Manager approval.
  - 6.5.3 Conduct phased region-wide implementation and provide technology transfer to municipalities and other appropriate parties and stakeholders. Task may include providing information to the California Stormwater Quality Association and CalTrans, both of which have construction BMP manuals.
- 6.6 Conduct effectiveness evaluation in accordance with Project Assessment and Evaluation Plan (PAEP) and submit to Grant Manager.

### **KEY DECISION POINTS**

The project involves an estimated eleven key decision points. Four attached figures (**Structural PCBs Project Key Decision Points**) identify key decisions and their anticipated timing, by project phase, for the entire project.

### **STAKEHOLDER GROUP**

The stakeholder process for the Structural PCBs Project will include a workgroup convened by SFEP to assist with project implementation. The workgroup will meet periodically to provide guidance during key steps of the project. The workgroup is anticipated to include (but is not limited to) representatives from the following organizations and interest groups:

- BASMAA
- San Francisco Bay Area municipalities
- San Francisco Bay Regional Water Board
- California Department of Transportation (Caltrans)
- California Department of Toxic Substances Control
- California Integrated Waste Management Board
- California Office of Environmental Health Hazard Assessment
- U.S. EPA Region 9
- Construction industry
- Environmental nonprofits

The Estuary Project will also involve other stakeholders to the extent appropriate, such as the Bay Area Air Quality Management District, the California Department of Health Services, and Cal –OSHA. The attached **Structural PCBs Project Overview – Key Times for Stakeholder Engagement** figure shows, by calendar quarter, when stakeholder engagement is anticipated. Stakeholder review and input to project work products will also be sought; the attached figure also lists work products for stakeholder input at each project phase.

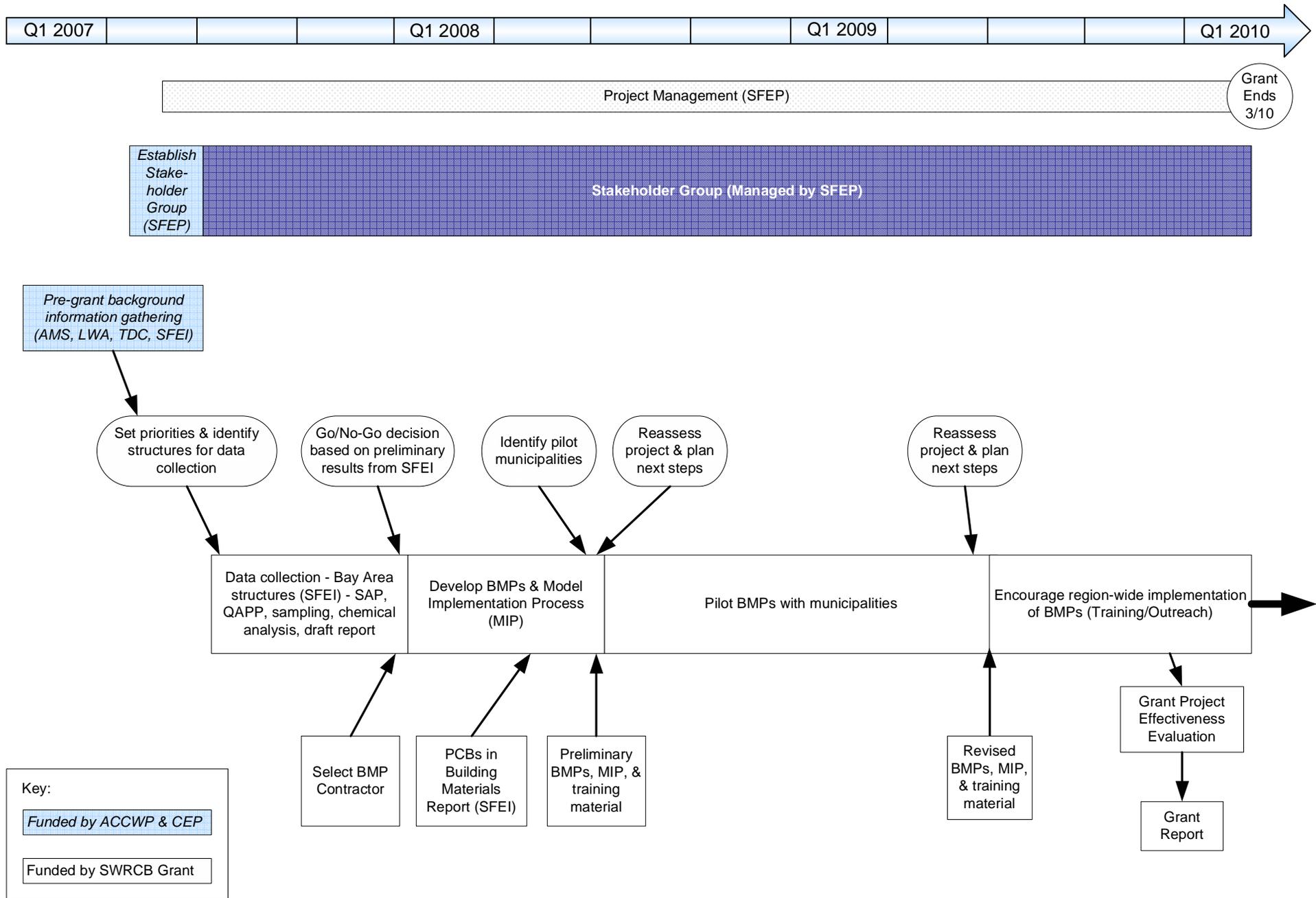
### **PROJECT EVALUATION**

The Project Assessment and Evaluation Plan (Draft, May 2007) provides a plan for evaluating project successes. Evaluation is based on both output and outcome indicators. Output indicators are designed to provide low-cost, easy to measure, quick-response tracking of project activity levels. Outcome indicators involve monitoring of environmental and other types of data that link directly to the goals of each TMDL being implemented. SFEP will report on output indicators in each quarterly project report. Outcome indicators will be assessed at the end of the project; the project outcome evaluation will be included in the in the final project report.

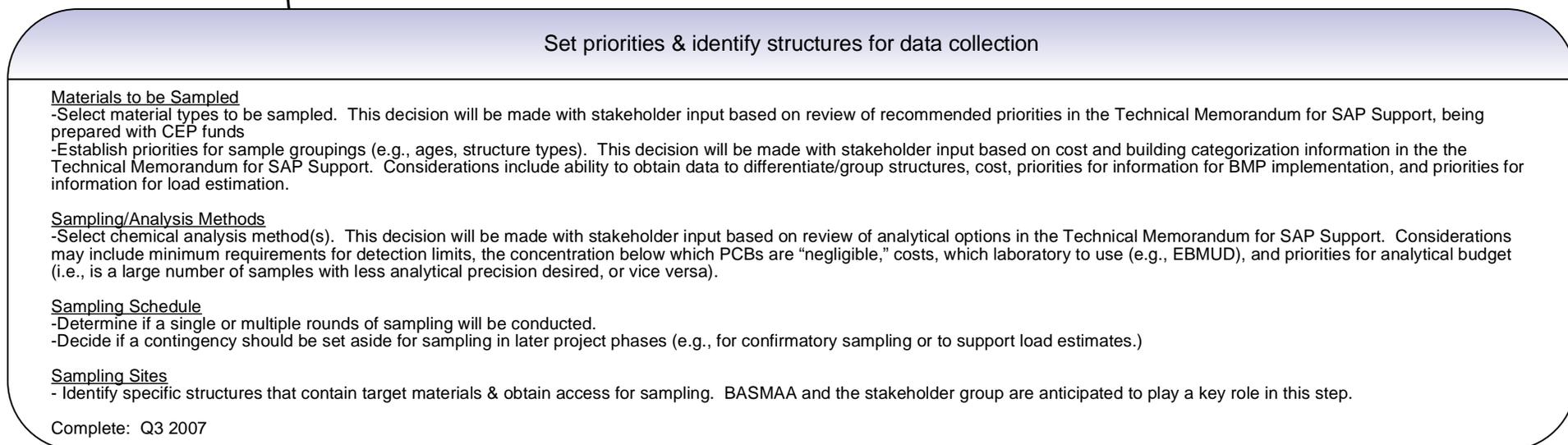
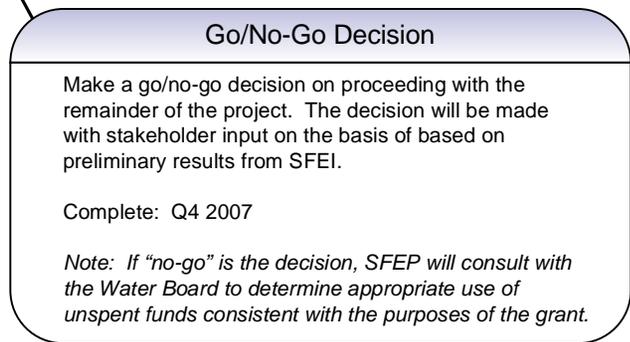
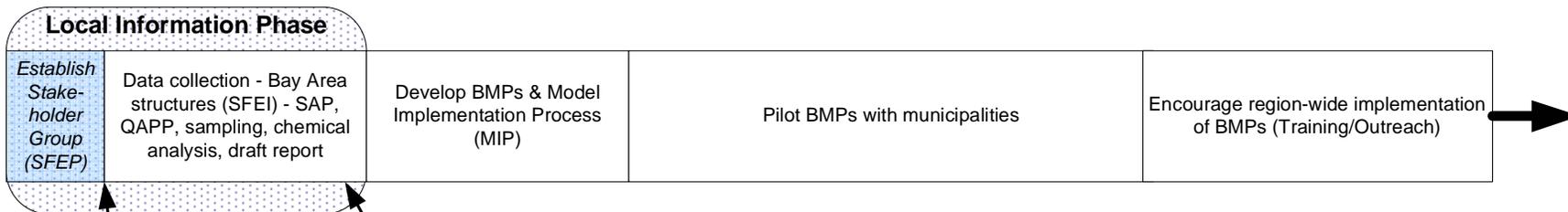
### **PROJECT SCHEDULE AND DELIVERABLES**

The table on the next page reflects the project schedule and deliverables listed in the grant agreement. The anticipated project schedule shown in the attached figures is somewhat more aggressive than the schedule required by the grant because SFEP would prefer to have as long as possible for the pilot project and regional implementation phases.

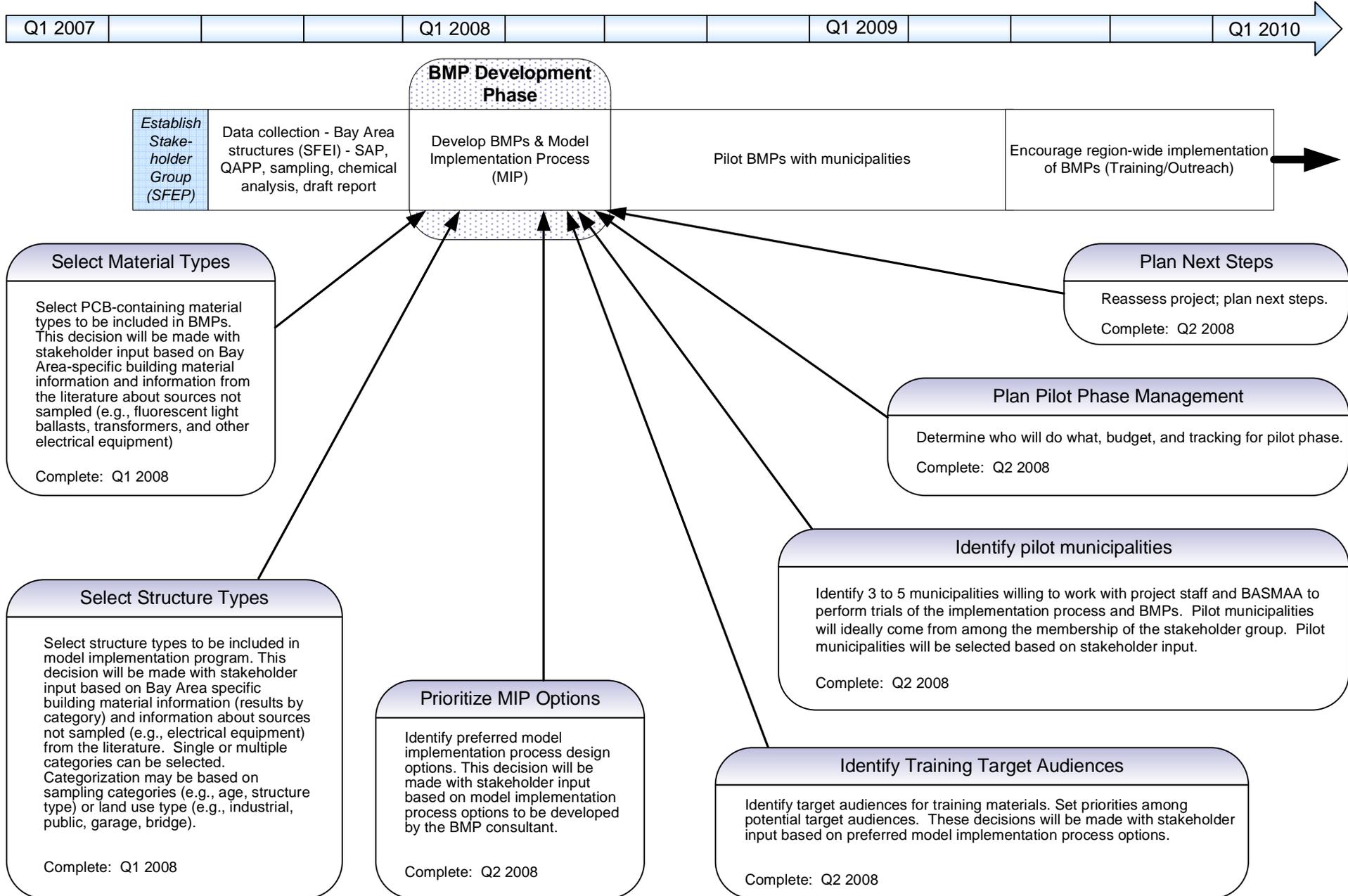
# ~~Structural PCBs Project Overview~~



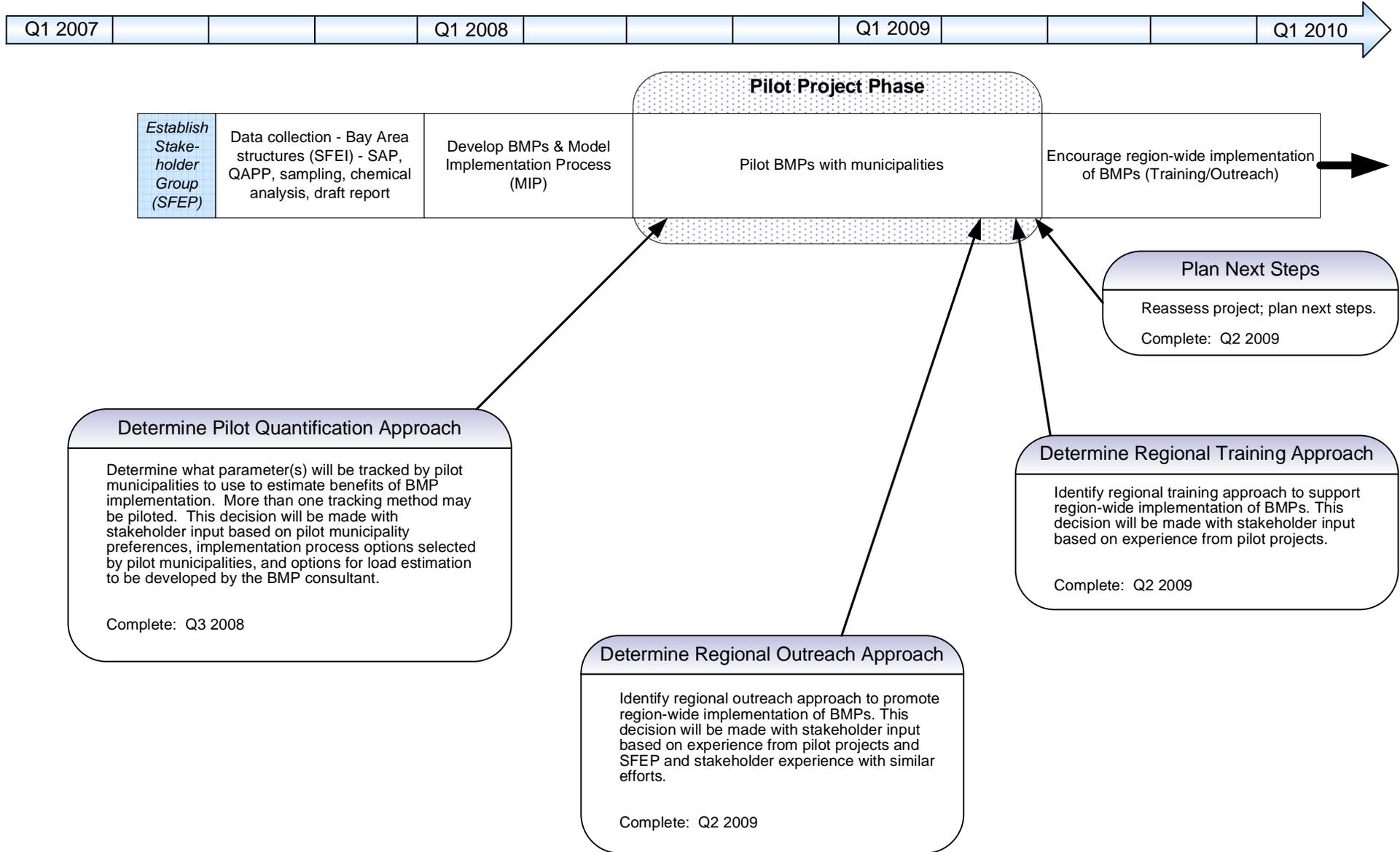
# ~~Structural PCBs Project Key Decision Points - Local Information Phase~~



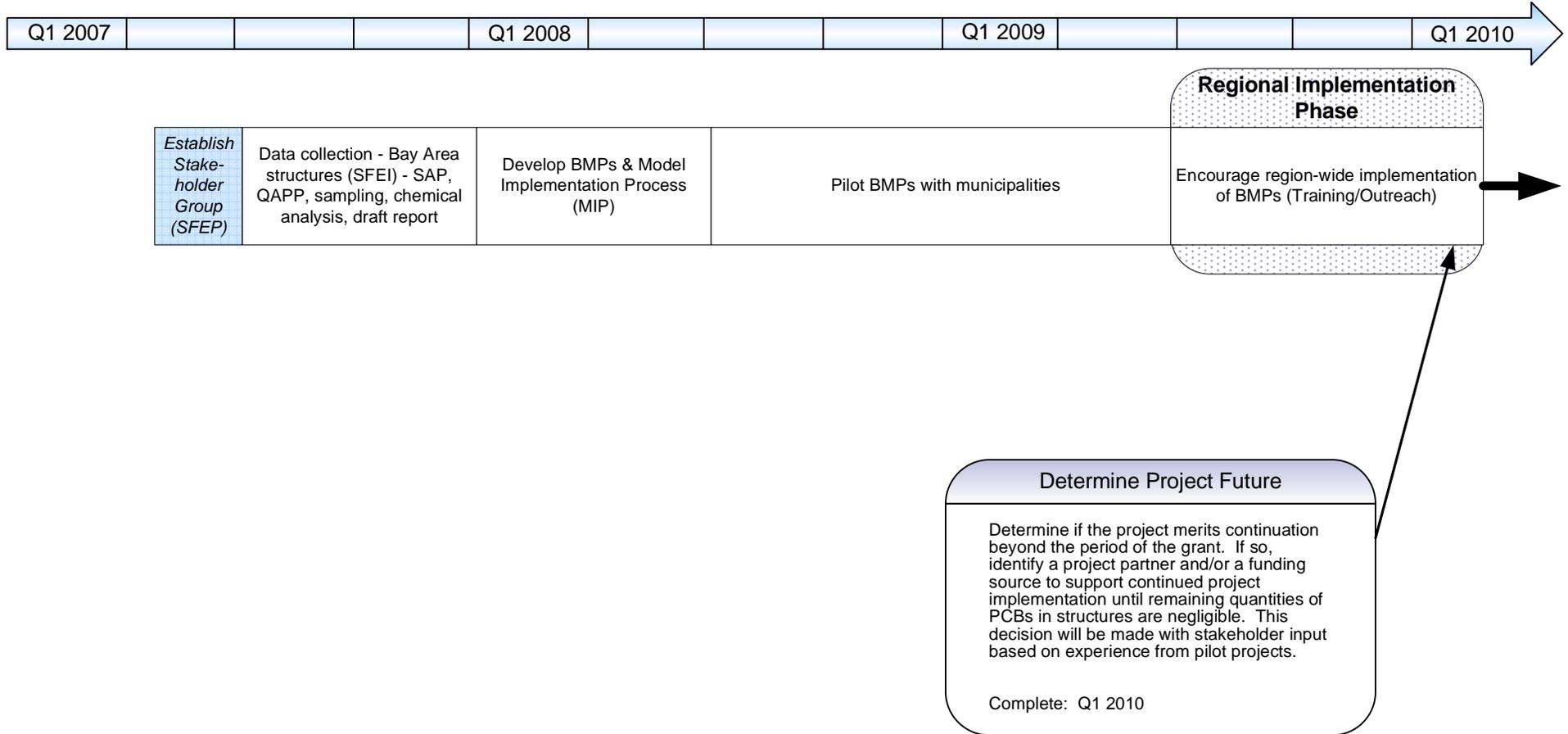
# Structural PCBs Project Key Decision Points - BMP Development Phase



# ~~Structural PCBs Project Key Decision Points - Pilot Project Phase~~



# Structural PCBs Project Key Decision Points - Regional Implementation Phase



# Structural PCBs Project Overview - Key Times for Stakeholder Engagement

