



***EAST BAY MUNICIPAL UTILITY DISTRICT'S***

**BIOSOLIDS MANAGEMENT  
PROGRAM (BMP)  
MANUAL**

**EBMUD  
2020 Wake Avenue  
Oakland, CA 94607  
510-287-1522**

**Effective Date: October 22, 2013**

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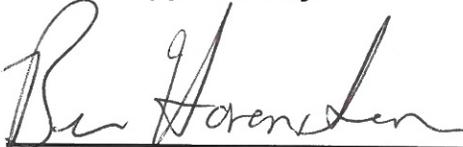
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**This Biosolids Management Program is managed by EBMUD's Biosolids Management Program Coordinator. The initial copy is approved by EBMUD's Director of Wastewater. Subsequent revisions to the manual are also approved by EBMUD's Director of Wastewater.**

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**Manual Approved by:**



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**Bennett K. Horenstein  
Director of Wastewater**

**October 2013**



## Policy 8.02

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### BIOSOLIDS MANAGEMENT

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#### IT IS THE POLICY OF THE EAST BAY MUNICIPAL UTILITY DISTRICT TO:

Promote the beneficial, sustainable, and cost-effective use of biosolids, in accordance with the District's mission statement, while complying with all applicable federal, state, county, and local laws, rules, and regulations. Seek continuous improvement and maintain good practices in all aspects of biosolids management.

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#### Definition

Biosolids are nutrient-rich organic materials resulting from the wastewater treatment process at the District's Main Wastewater Treatment Plant.

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#### Code of Good Practices for the District's Biosolids Management Program

The District is committed to continual improvement and the following good practices in managing its biosolids program:

**Compliance:** Comply with all applicable federal, state, and local requirements regarding biosolids production, management, testing, storage, transportation, and use or disposal.

**Product Quality:** Produce biosolids that meet or surpass applicable standards regulating their final end use.

**Environmental Management System:** Develop and implement an environmental management system (EMS) that conforms to the National Biosolids Partnership EMS program requirements, including a method of independent third-party verification.

**Quality Monitoring:** Monitor the effectiveness of biosolids production and management practices and implement corrective and preventative action plans as needed.

**Quality Practices:** Implement good housekeeping practices for biosolids production, processing, transport, storage, and during final end use or disposal operations.

**Contingency and Emergency Response Plans:** Maintain response plans for unanticipated events such as inclement weather, spills, and equipment malfunctions.

**Sustainable Management Practices and Operations:** Enhance the environment by committing to sustainable, environmentally-acceptable biosolids management practices and operations.

**Preventative Maintenance:** Prepare and implement a plan for preventative maintenance for equipment used to manage biosolids and wastewater solids to ensure reliability and meet regulatory compliance requirements.

**Cost Effectiveness:** Maintain cost-effective biosolids management practices and use.

**Communication:** Provide methods of effective communication with regulators, stakeholders, and interested citizens regarding the key elements of the District's biosolids program, including information relative to EMS performance.

**Authority**

Adopted by Resolution 33365-03, July 8, 2003  
Amended by Resolution 33523-06, March 28, 2006  
Amended by Resolution 33550-06, July 25, 2006  
Amended by Resolution No. 33763-10, April 27, 2010.  
Amended by Resolution No. 33883-12, June 26, 2012

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**Reference**

Policy 7.05 – Sustainability  
Policy 7.07 – Renewable Energy

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### ***Purpose of Developing and Implementing a Biosolids Environmental Management System***

The East Bay Municipal Utility District (EBMUD) embarked on developing a Biosolids Environmental Management System (EMS) for its Biosolids Management Program (BMP) in 2003. EBMUD recognized the challenges associated with biosolids management, particularly as it relates to relations with the public. EBMUD believes that applying an EMS approach to its BMP will allow EBMUD to focus on continuous improvement of its BMP to achieve the following key outcomes:

1. Regulatory compliance
2. Environmental performance
3. Improved relations with the public, including public understanding/acceptance of our program
4. Quality Management Practices for the Biosolids Program
5. Product quality
6. Sustainability of our biosolids management options
7. Increased energy production
8. Program integrity

The EMS applies to activities associated with the BMP, including contractor's activities.

EBMUD officially began implementing the new BMP on July 1, 2005.

### ***Organization of the BMP Manual***

The BMP Manual describes EBMUD's BMP. The manual is a "living" document. The continuous improvement process involves using an organization's policy as a guide to planning, implementing, checking, and reviewing a program in a continuous cycle. This concept is illustrated in Figure 1-1 below.

The BMP Manual has 17 elements that work together to constitute this continuous improvement cycle. Table 1-1 below identifies the elements that make up an EMS. Each element of the program is described in this manual in separate "chapters" as indicated in Table 1-1. The description is the "planning" element of the continuous improvement cycle – it says what we are going to do. Then, we implement what it is we said we would do. "Checking" is done through monitoring, measuring, and auditing our performance, which we then review through management and team

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meetings and report in our performance report, which is available to the public. Based upon our reviews, modifications to the program may be implemented to further improve the program.

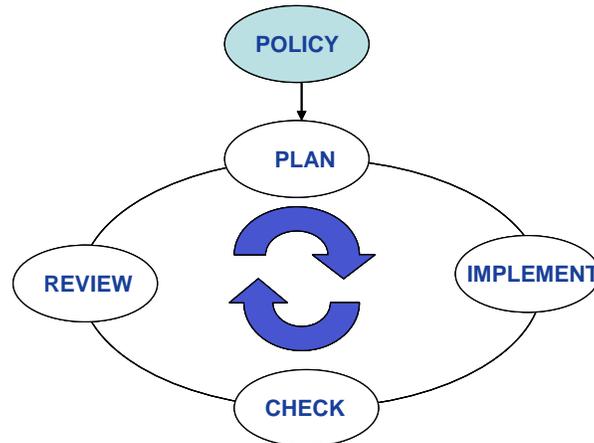


Figure 1-1 Continuous Improvement Cycle

The manual is approved by EBMUD’s Director of Wastewater. Any edits to the manual must also be approved by the Director of Wastewater.

Versions of EBMUD’s BMP Manual are tracked in a document located in the Biosolids EMS folder: <W:\NAB\ems>. The current version of the manual is available internally at: [http://ww-web-01/bio/bio\\_index.cfm](http://ww-web-01/bio/bio_index.cfm) and externally at: <http://www.ebmud.com/our-water/wastewater-treatment/wastewater-treatment-programs/environmental-management-system>.

EBMUD’s BMP was developed considering the requirements of the National Biosolids Partnership’s model for development of a Biosolids EMS.

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Table 1-1 – EMS Elements

<b>Elements of the EMS for Biosolids</b>		
<b>Category</b>	<b>Element No.</b>	<b>Element</b>
Policy	1	EMS Manual
	2	Biosolids Management Policy
Planning	3*	Critical Control Points
	4	Legal and Other Requirements
	5	Goals and Objectives
	6*	Public Participation in Planning
Implementation	7	Roles and Responsibilities
	8	Training
	9*	Communication
	10*	Operational Control of Critical Control Points
	11	Emergency Preparedness and Response
	12	Documentation, Document Control, and Record Keeping
Measurement and Corrective Action	13	Monitoring and Measurement
	14	Nonconformances: Preventive and Corrective Action
	15	Biosolids Management Program Report
	16	Internal EMS Audit
Management Review	17	Management Review

\* Note the descriptions of Elements 3 and 10 have been combined into one section, as have Elements 6 and 9.

## **Background**

EBMUD treats domestic, commercial, and industrial wastewater for the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, and Piedmont. EBMUD also treats wastewater for Stege Sanitary District, which includes the cities of El Cerrito, Kensington, and part of Richmond. Each of these communities operates sewer collection systems that discharge into one or more of five EBMUD interceptor sewers. EBMUD's 29 miles of interceptors collect wastewater from approximately 1,800 miles of sewers owned and operated by the communities. Fifteen EBMUD pumping stations lift wastewater throughout the interceptors to assist with conveyance to the wastewater treatment plant.

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Wastewater collected by the interceptors flows to EBMUD's Main Wastewater Treatment Plant (MWWTP) in Oakland near the entrance of the San Francisco-Oakland Bay Bridge. The average flow into the plant is approximately 66 million gallons per day.

Trucked wastes are received and treated at the MWWTP as part of EBMUD's Resource Recovery (R2) Program.

The wastewater undergoes pretreatment, primary treatment, and secondary treatment. The treated wastewater (called effluent) is then disinfected, dechlorinated, and discharged one mile off the East Bay shore through a deep-water outfall into San Francisco Bay.

Solids collected from the primary and secondary wastewater treatment processes are sent to anaerobic digesters for stabilization. The stabilized solids (biosolids) are dewatered in centrifuges. EBMUD produces about 70,000 wet tons of biosolids annually. EBMUD strives to beneficially reuse its biosolids in a sustainable and cost-effective manner. Currently, EBMUD's biosolids are recycled through land application on non-edible crop sites and alternative daily cover (ADC) at landfills. Hauling, land application, and utilization for ADC are performed by two contractors under general service contracts ([Biosolids Handling Contract](#)).

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## 2.1 Purpose & Scope

To identify the process used by EBMUD to establish, review, update and communicate EBMUD's policy for biosolids management.

## 2.2 Responsibilities

**EBMUD Board of Directors:** Gives final approval of all EBMUD policies.

**BMP Coordinator:** Coordinates development, review and approval of the biosolids policy. Communicates the policy to EBMUD's biosolids contractors and interested parties.

**BMP Steering Committee:** Provides review and comment on the policy and any proposed policy revisions.

**BMP Team:** Assists the BMP Coordinator with implementation of the procedure below.

**General Manager's Office:** Forwards policy to Board of Directors for approval. Sends email to EBMUD employees of approved policies and procedures and posts them on the intranet.

## 2.3 Procedure

2.3.1 The BMP Coordinator drafts EBMUD's Biosolids Management Policy and routes to BMP Team for review and comment. The BMP Coordinator considers the following in developing the policy: EBMUD's mission statement and strategic plan; the NBP Code of Good Practice; and the letter of understanding between EBMUD and the NBP. The policy format shall be as defined in EBMUD's guidelines for writing policies and procedures.

2.3.2 The BMP Coordinator provides draft policy approved by the BMP Team to the BMP Steering Committee for review and comment.

2.3.3 The BMP Coordinator complies with EBMUD's guidelines for writing policies and procedures with respect to circulating the draft policy among

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senior management for review and comment, as well as obtaining the General Manager's and Board of Director's approval of the policy.

- 2.3.4 Upon approval by the Board of Directors, the General Manager's office issues an email to all EBMUD employees regarding the adoption of the policy. The BMP Coordinator communicates the policy to EBMUD's biosolids contractors and interested parties.
- 2.3.5 If, at any level of the review and approval process, changes are recommended, the BMP Coordinator reviews the recommendations and, at his/her discretion, re-routes to the BMP Steering Committee or appropriate parties for review. The BMP Steering Committee then determines if the policy needs to be re-routed to senior management for review prior to forwarding to the General Manager's office.
- 2.3.6 EBMUD's Biosolids Management Policy is subject to a biannual review according to EBMUD guidelines. Prior to the biannual review, the BMP Coordinator may recommend policy revisions to the BMP Steering Committee to maintain consistency with management direction, regulation, public concerns, and other factors affecting EBMUD's Biosolids Management Policy (see *Element 17*).
- 2.3.7 During the internal audit of the biosolids policy (see *Element 16*), the BMP Audit Team shall check that the biosolids policy is incorporated into the Biosolids Management Program goals and objectives, procedures, and practices. If discrepancies are found, BMP Coordinator shall determine if the Corrective and Preventive Action (CAPA) process (see *Element 14*) shall be implemented prior to recommending policy revisions.

## **2.4 References**

1. Policies and Procedures, EBMUD Procedure 460, January 21, 2010

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### 3.1 Purpose & Scope

To define the process for identifying, documenting, reviewing, and updating the Critical Control Points (CCPs) and Operational Controls (OCs) for EBMUD's biosolids activities and management.

### 3.2 Responsibilities

**BMP Coordinator:** Leads and facilitates development and review of CCPs and OCs.

**BMP Team:** Participates in development of CCPs and OCs.

### 3.3 Procedure

#### 3.3.1 Identification of CCPs and OCs

- a. The BMP Coordinator defines the basic flow diagram for EBMUD's biosolids production and end use related activities (termed the biosolids "value chain" by the NBP) and reviews with the BMP Team for accuracy.
- b. The BMP Coordinator, with input from the BMP Team, identifies those key points along EBMUD's biosolids value chain that should be controlled to:
  - i. Minimize negative environmental impacts (*see Element 1*); and/or
  - ii. Maximize positive environmental impacts (*see Element 1*); and/or
  - iii. Allow progress towards achieving the BMP key outcomes (*see Element 1*).

These key points are called Critical Control Points (CCP).

- c. As part of the CCP identification process, the BMP Coordinator and BMP Team shall consider the CCPs defined in the NBP's Manual of Good Practice as well as other authoritative sources.
- d. The BMP Coordinator, with input from BMP Team, specifies the environmental impacts related to a CCP.
- e. The BMP Coordinator, with input from BMP team, identifies the legal and other requirements (*see Element 4*) that are associated with a CCP.
- f. The BMP Coordinator, with input from BMP Team, specifies for each CCP the means by which the CCP is controlled in order to ensure they are carried out under specified conditions. These means are called

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Operational Controls, and may include, but are not limited to, operational skills, Standard Operating Procedures (SOPs), effective Maintenance (including preventive maintenance), and EBMUD's Distributed Control System (DCS) at the MWWTP.

### 3.3.2 Documentation of CCPs and OCs

- a. The BMP Coordinator shall maintain documentation of EBMUD's biosolids CCPs and associated environmental impacts, key outcomes, legal and other requirements, and operational controls. See Attachments 3A and 3B for a list of CCPs.

### 3.3.3 Review of CCPs and OCs

- a. The BMP Coordinator may assess the need to review the CCPs and/or OCs if any one of the following occurs:
  - i. At the conclusion of the CAPA process for a noncompliance or nonconformance incident (*see Element 14*);
  - ii. Changes to the biosolids value chain, operation or design of treatment processes, or end use;
  - iii. Changes to legal or other requirements;
  - iv. Changes to Biosolids Policy;
  - v. At any other time determined necessary by the BMP Coordinator.
- b. Responsibility for the review and revisions of operational controls are as follows:
  - i. Operator skills – WTD
  - ii. DCS – WTD
  - iii. SOPs – WTD
  - iv. Maintenance – WTD
  - v. Hauling contracts – BMP Coordinator
  - vi. Contractor BMP – BMP Coordinator
- c. Review and revision of CCPs and OCs will follow the procedure specified in section 3.3.1 "Identification of CCPs and OCs."
- d. EBMUD shall inform the NBP and the assigned third-party auditor following an operational change that requires a change to the identified CCPs or environmental impacts associated with the CCPs.

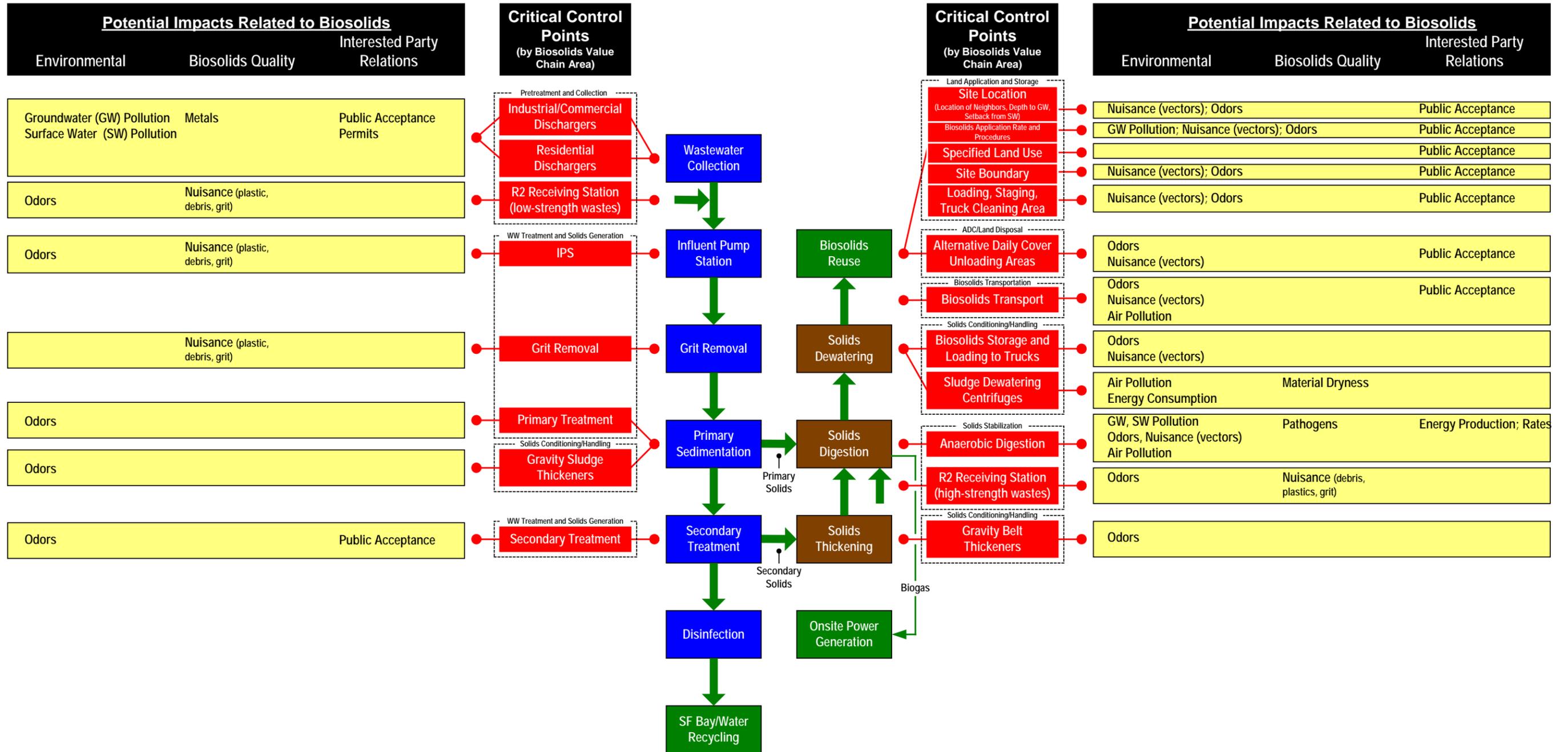
### 3.3.4 Communication of CCPs and OCs

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- a. The BMP Coordinator may include information regarding CCPs and OCs in BMP training for EBMUD staff and contractors (*Element 8*) as applicable.

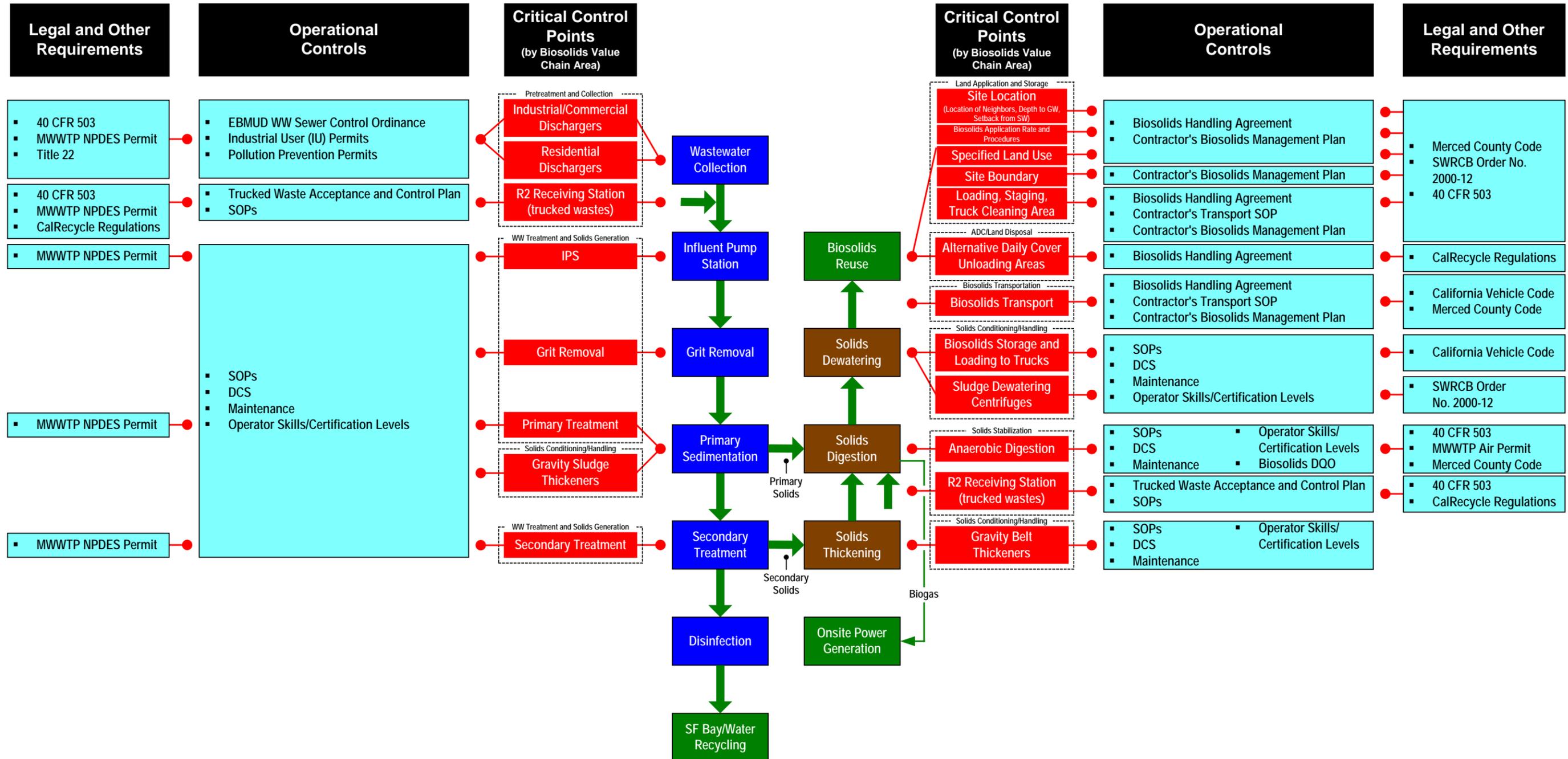
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Attachment 3A – Critical Control Points and Potential Impacts Related to Biosolids



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Attachment 3B – Critical Control Points, Operational Controls, and Legal and Other Requirements



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#### **4.1 Purpose & Scope**

1. Establish a procedure for identifying and tracking legislative, regulatory, and other requirements applicable to EBMUD’s biosolids management activities.
2. Establish a management process for incorporating changes and new requirements into the Biosolids Management Program.

#### **4.2 Responsibilities**

**BMP Coordinator:** Leads BMP Team in identifying and tracking laws, regulations and other requirements that impact the Biosolids Program. Leads BMP Team in ensuring the Biosolids Program complies with laws, regulations and other requirements.

**BMP Team:** Works with the BMP Coordinator as directed.

**BMP Steering Committee:** Approves changes to the Biosolids Program that are required to ensure compliance.

**Inter-Governmental Affairs Office:** Tracks and disseminates information on legislative bills pertaining to EBMUD activities.

**Regulatory Compliance Office:** Assists the BMP Coordinator and BMP Team in tracking new and changes to regulations and other requirements.

#### **4.3 Procedures**

##### **4.3.1 Identify and Track Legislation, Regulations and Other Requirements**

- a. The BMP Coordinator, with input from BMP Team, identifies federal and state regulations, legislation, and other requirements associated with biosolids (*Attachment 4A*) and a list of agencies enforcing them (*Attachment 4B*).
- b. The BMP Coordinator, working with BMP Team Regulatory Compliance Office (RCO) staff, tracks the impending and finalized biosolids regulations, legislation and other requirements through:
  - i. coordinating with EBMUD’s Inter-Governmental Affairs Office for review of pending federal and state legislation

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- ii. participating in various professional organizations (e.g., WEF, NACWA, CWEA, TriTAC, BACWA, CASA)
- iii. internet searches and subscription to email distribution lists of various organizations and agencies
- iv. journal subscriptions
- v. keeping in contact with representatives from regulatory agencies (EPA, SWRCB, etc.) through email, meetings, and telephone conversations

#### 4.3.2 Assess the Impact and Incorporate Changes to Biosolids Program

- a. When the BMP Coordinator determines that the Biosolids Program must be reviewed and updated to ensure compliance with new laws, regulations, and/or other requirements, or due to changes in existing laws, regulations and/or other requirements, the BMP Coordinator will meet with BMP Team to discuss those elements of the program that should be reviewed, including at a minimum, the policy, CCPs, operational controls, SOPs, and monitoring and measurement. The BMP Coordinator and the BMP Team shall utilize the CAPA process to identify corrective actions needed to bring the program into compliance.
- b. Corrective actions that will result in the need to have elements in the BMP Manual reviewed and approved will be presented to the BMP Steering Committee at a special meeting called by the BMP Coordinator.
- c. Compliance with the new requirements is ensured through monitoring and measurement procedures described in *Element 13* (Monitoring & Measurement).

4.3.3 Legal and other requirements and related records are maintained pursuant to *Element 12* (Documentation).

4.3.4 If nonconformances are found during the internal audit process (see *Element 16*), the CAPA process (see *Element 14*) shall be implemented.

#### **Attachments**

1. Attachment 4A – Federal, State, Local and Other Requirements
2. Attachment 4B – Agencies Enforcing Biosolids Regulations

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## Attachment 4A

### Federal, State, Local and Other Requirements

#### 1. Federal

- a. 40 CFR [122](#), [123](#), and [124](#) “The National Pollutant Discharge Elimination System”, “State Program Requirements”, and “Procedures for Decision-making” requires municipal disposal to be included in NPDES.
- b. 40 CFR [257](#) “Criteria for Classification of Solid Waste Disposal Facilities and Practices” controls land application of sludge, landfills, and storage lagoons.
- c. 40 CFR [258](#) “Criteria for Municipal Solid Waste Landfills” regulates co-disposal of sludge in landfills.
- d. 40 CFR [403](#) “General Pretreatment Regulations for Existing and New Sources of Pollution”.
- e. 40 CFR [501](#) “State Sludge Management Program Regulations” requires states to implement federal regulations concerning some sludges.
- f. 40 CFR [503](#) “The Standards for the Use or Disposal of Sewage Sludge” regulates land application, distribution, and marketing, monofills, surface disposal, and incineration.
- g. 40 CFR [761](#) “Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions” defines sludges containing more than 50 mg/kg PCB’s as toxic.

#### 2. State

- a. Title 22 California Code of Regulations, Division 4.5, [Chapter 11. Identification and Listing of Hazardous Waste](#) – Classification of hazardous and extremely hazardous wastes.
- b. Title 23 California Code of Regulations, Division 3, Chapter 15 – Municipal sewage sludge discharges to land.
- c. [State Water Resources Control Board Water Quality Order No. 2004-12 - DWQ](#) – General waste discharge requirements for the discharge of

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biosolids to land for use as a soil amendment in agricultural, silvicultural, horticultural, and land reclamation activities (General Order).

- d. [Regional Water Quality Control Board waste discharge requirements](#) – Requirements for discharges from EBMUD’s Main Wastewater Treatment Plant.
- e. Air Quality Management District/[Bay Area Air Quality Management District requirements](#) – Gas/odorous emission limits for EBMUD’s Main Wastewater Treatment Plant and landfill partners.
- f. [CalRecycle](#) – Landfill and compost regulations
- g. California Vehicle Code – <http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=veh&codebody=&hits=20>
- h. California Occupational Safety & Health Administration (OSHA) Regulations - The Department of Industrial Relations, [Division of Occupational Safety and Health](#) (DOSH)

### 3. Local

- a. [Merced County Code, Section 1, Chapter 9.52](#) – Regulation of Sewage Sludge
- b. [StopWaste.Org](#) (Alameda County Waste Management Authority & Alameda County Source Reduction and Recycling Board) – County facility fee ordinance

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## Attachment 4B

### Agencies Enforcing Biosolids Regulations

1. [U.S. Environmental Protection Agency](#) – Federal policy and regulations for environmental protection and public health
2. [U.S. Department of Agriculture](#) – Fertilizer standards and regulations
3. [California Department of Public Health](#) – Statewide environmental and public health policy and regulations especially pertaining to hazardous substances
4. [California State Water Resources Control Board](#) – Statewide policy and regulations related to land disposal and protection of water quality
5. [CalRecycle](#) – Statewide policy and regulations related to solid waste management and composting
6. [California Department of Food and Agriculture](#) – Proposal for a statewide policy and regulations related to organic fertilizer regulations
7. San Francisco [Regional Water Quality Control Board](#) – Regional surface water and groundwater quality
8. County Health Departments – Local sanitation, vectors and odors
9. [California Highway Patrol](#) – Enforcement of motor vehicle standards and the transportation of biosolids
10. Air Quality Management District/[Bay Area Air Quality Management District](#) – Regional air quality (impact of EBMUD’s operations air quality, compressed natural gas requirement for local government agencies and their contractors, requirements imposed to possible processing options, such as chemical stabilization, drying, pasteurization, composting, etc.).
11. [California Division of Occupational Safety and Health](#) (DOSH) – Enforcement of Cal/OSHA
12. Counties where biosolids management options are exercised.

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### 5.1 Purpose & Scope

To define a process for the development, tracking, and periodic update of measurable Biosolids Management Program goals and objectives to pursue continual improvement in EBMUD’s biosolids management performance to achieve key outcomes as defined in Element 1.

### 5.2 Responsibilities

**BMP Coordinator:** Assists and facilitates development, tracking and periodic update of goals and objectives.

**BMP Steering Committee:** Reviews, comments on and approves goals and objectives.

**BMP Team:** Assists the BMP Coordinator in the development, tracking and updating of goals and objectives.

**EBMUD Senior Management Team:** Manages EBMUD’s strategic planning process.

### 5.3 Procedures

#### 5.3.1 EBMUD Strategic Planning Process

- a. EBMUD’s core mission and values are established by EBMUD’s Board of Directors, with assistance from the EBMUD Senior Management Team.
- b. The EBMUD Senior Management Team develops EBMUD Strategic Plan consistent with EBMUD’s mission and values. The Strategic Plan outlines specific goals, strategies and objectives that EBMUD will pursue and establishes a set of criteria to measure progress and considers input received from the public regarding EBMUD’s programs. The Strategic Plan is approved by the Board of Directors.
- c. The Senior Management Team reviews and updates the Strategic Plan every two years. As part of the update process, the Team conducts an “environmental scan” to identify potential issues that could impact EBMUD which may lead to new or changing priorities that could be incorporated into the updated plan.

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- d. Business/Corporate Plans are prepared by parties designated by the Senior Management Team. These plans describe specific actions that will be taken in order to achieve the Strategic Plan's objectives. These plans outline the tasks, milestones, due dates and responsible parties for the various objectives contained in the strategic plan.
- e. The Business/Corporate plans are for a two-year period, and are in place prior to the subsequent two year budget cycle. The plans are used to guide the budget priorities.
- f. The Business/Corporate plans are updated after the updated Strategic Plan is approved by the Board of Directors.

### 5.3.2 Development of Biosolids Management Program Goals and Objectives

- a. The BMP Coordinator leads the BMP Team in the development of the Biosolids Management Program's goals and objectives. The following are considered in the goals and objectives development: BMP key outcomes; EBMUD Strategic Plan; Biosolids Policy commitments; critical control points (*see Element 3/10*); views of interested parties; CAPA findings (*see Element 14*); previous year's program performance (*see Element 15*); environmental impacts; legal and other requirements; best management practices; technology options; and finance and operational requirements.
- b. The BMP Coordinator presents the proposed goals and objectives to the BMP Steering Committee for review and approval.
- c. The goals and objectives are reviewed and updated annually.
- d. The goals and objectives must follow the SMART criteria (i.e, specific, measurable, achievable, relevant, and time-bounded.)
- e. The goals and objectives are documented and posted on EBMUD's Biosolids Intranet and Internet sites.
- f. The goals and objectives must be integrated into other elements of the EMS and biosolids management activities.

### 5.3.3 Tracking of Biosolids Management Program Goals and Objectives

- a. The BMP Coordinator leads the BMP Team in the development and documentation of action plans for each objective. The action plans include specific milestones, responsible parties, and due dates.
- b. The BMP Coordinator shall inform responsible parties of their specific milestones and due dates.
- c. The BMP Coordinator reviews the action plans and documents the status of each milestone.

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#### 5.3.4 Reporting progress on Achieving Goals and Objectives

- a. The BMP Coordinator shall review the status of the action items at the BMP Team and BMP Steering Committee meetings (*see Element 17*).

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### 6.1 *Purpose & Scope*

1. Develop and implement a proactive public participation approach to actively engage interested parties and the public in EBMUD’s BMP.
2. Establish, implement and maintain a proactive communications program to provide ongoing information to interested parties and public about EBMUD’s BMP.
3. Establish, implement and maintain a procedure for internal communication among the various parties involved in EBMUD’s BMP.

### 6.2 *Responsibilities*

**Call Center:** Receives and directs biosolids related calls to the BMP Coordinator.

**Contractors:** Responsible for notifying the BMP Coordinator of communications with public regarding EBMUD’s BMP.

**BMP Coordinator:** Leads the public participation and communication effort for the Biosolids Program.

**BMP Steering Committee:** Provides guidance and input on communication and public outreach efforts.

**BMP Team:** Assists the BMP Coordinator with public participation and communication efforts.

**Office of Public Affairs:** Provides support to the BMP Coordinator in public participation efforts for the Biosolids Program.

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Document I.D.: E 6&9 - Public Participation and Communication 10-22-13	Version 9

### **6.3. Procedure**

- 6.3.1 The BMP Coordinator shall maintain an updated list of both external and internal parties that have expressed interest in or are involved in EBMUD's BMP.
- a. The initial external list contains individuals that the BMP Coordinator has had direct contact with through various biosolids related activities, including proactive outreach efforts, involvement in professional organizations, responding to public inquiries about the program, and communications with regulators.
  - b. The initial internal list contains the following classifications of people: EBMUD Senior Management Team; Wastewater Department staff – supervisory level and above; BMP Team; BMP Steering Committee.
  - c. Each list shall be updated by the BMP Coordinator to include parties identified through referrals from existing interested parties, from inquiries received by the BMP Coordinator, and from Contractor's records of public inquiries.
- 6.3.2 The BMP Coordinator, through active engagement in the Biosolids Management Program elements, may identify the need to proactively conduct outreach to external parties. These parties may include, but are not limited to, regulators, County staff or the public where land application is occurring. In such cases, the BMP Coordinator shall work with the Office of Public Affairs to develop a public outreach plan that is appropriate to the targeted audience regarding the issues of concern.
- 6.3.3 Interested parties and public can provide their input by contacting:
- a. BMP Coordinator: The BMP Coordinator's contact information is posted in the Biosolids websites and included in the emails, articles and presentations for public contact with any biosolids related comments/input.
  - b. Call Center: EBMUD Call Center receives public calls and forwards the biosolids related ones to the BMP Coordinator.
  - c. EBMUD Biosolids Contractors: Contractors are required to notify the BMP Coordinator immediately for any inquiries and comments received.
- 6.3.4 The BMP Coordinator responds to, tracks and documents inquiries/comments received from the public. Public comments received are documented by the BMP Coordinator in the Public Input Log.

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- 6.3.5 Written communications with interested parties may include but are not limited to:
- a. Email updates on the program,
  - b. Email invitations to participate in third party audits
  - c. Mailing of specific documents that may be requested by an interested party
  - d. Annual BMP Performance Report
  - e. Internet site, which shall contain at a minimum:
    - i. EBMUD's Biosolids Management Policy;
    - ii. Biosolids program goals and objectives for continual improvement;
    - iii. BMP Performance Reports;
    - iv. Biosolids BMP Manual;
    - v. Independent third-party audit reports;
  - f. Intranet site
  - g. Press releases regarding key events related to the program
  - h. Memos and reports for the Board of Directors
- 6.3.6 Verbal/personal communications with interested parties may include but are not limited to:
- a. Responding to telephone inquiries
  - b. Formal presentations regarding the program, such as with West Oakland liaison groups, Board of Directors briefings, and technical conferences.
  - c. Face-to-face meetings with individuals and stakeholder groups
  - d. Telephoning individuals from Contractor's records of public inquiries
- 6.3.7 The public's interest in biosolids activities shall be monitored by the Office of Public Affairs through EBMUD's Key Contact Program, daily scan of newspapers and media releases, etc. The Office of Public Affairs shall keep the BMP Coordinator informed of issues identified.
- 6.3.8 Call center staff and contractors shall receive instruction for response to biosolids program inquiries (*see Element 8*).
- 6.3.9 Input received from interested parties shall be considered in the development of program goals and objectives (*see Element 5*) and significant input may be reported at Management Review meetings (*see Element 17*).
- 6.3.10 Internal communications

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- a. Internal communications regarding general program information shall primarily be through notifications of internal interested parties, and EBMUD's Biosolids EMS intranet site.
- b. The BMP Coordinator shall inform the BMP Team, BMP Steering Committee, and other parties deemed appropriate by the BMP Coordinator, of issues that need to be communicated to the BMP Coordinator.
- c. The BMP Coordinator shall communicate with the BMP Team and BMP Steering Committee through the Management Review meetings (see *Element 17*), as well as when determined necessary by the BMP Coordinator.

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### **7.1 Purpose & Scope**

To establish and maintain EBMUD's records of the assigned roles and responsibilities of the BMP activities.

### **7.2 Roles & Responsibilities**

Defined in section 7.3.5 below.

### **7.3 Procedure**

7.3.1 The Wastewater Department Director has the overall responsibility of the biosolids program. In the case where the Wastewater Department Director is unavailable, his appointed delegate will have responsibility. The Treatment Division Manager has the authority for the management of the operations of the Main Wastewater Treatment Plant (MWWTP). The Laboratory Division Manager has the authority for all laboratory work.

7.3.2 The Wastewater Department Director designates the BMP Coordinator, taking into considerations the individual's knowledge, skills and abilities, particularly management and interpersonal skills.

7.3.3 The Wastewater Department Director designates the individuals that will comprise the BMP Steering Committee.

7.3.4 The BMP Coordinator defines the roles that are required for the BMP Team and works with the BMP Steering Committee to identify the individuals that will serve in those positions and maintains an organizational chart for the Biosolids Management Program including the names of assigned individuals.

7.3.5 The BMP Coordinator, with input from BMP Team identifies the roles and responsibilities of individuals for each BMP Element. These roles and responsibilities are described in each element write-up.

7.3.6 General descriptions of the roles and responsibilities for various positions and groups involved with the BMP are below. The BMP Coordinator is responsible for ensuring that positions and groups involved with the

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program are aware of their responsibilities as they pertain to the BMP  
(see *Element 8.*)

1. **BMP Coordinator:** Reports to the BMP Steering Committee. Responsible for ensuring the Biosolids Management Program conforms to the EMS Program requirements established in the EBMUD Biosolids Management Program Manual.
2. **BMP Steering Committee:** Provides oversight for Biosolids Management Program activities.
3. **BMP Team:** Supports the BMP Coordinator with the implementation of the Biosolids Management Program.
4. **Call Center:** Responsible for handling outside calls to EBMUD and properly directing them to the BMP Coordinator.
5. **Contractors:** One Contractor is responsible for transportation, and reuse or disposal of biosolids at landfills. Another contractor is responsible for transportation and land application of the biosolids. Both are under a full service contract with EBMUD ([Biosolids Handling Contract](#)).
6. **District Board of Directors:** Gives final approval of all EBMUD policies.
7. **Employee Development Division:** Responsible for general employee development training.
8. **Environmental Services Division:** Responsible for EBMUD's pretreatment and pollution prevention programs. Responsible for monitoring contractors to ensure that the handling and transportation of biosolids are done in a compliant, safe and responsible manner. Conducts field inspections for source control and Contractor's biosolids activities.
9. **Inter-Governmental Affairs:** Responsible for providing EBMUD staff information on legislative bills that pertain to wastewater or biosolids.
10. **Laboratory Services Division:** Responsible for providing laboratory services needed for compliance and permitting issues.

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11. **Lead Auditor:** Designated by BMP Coordinator. Responsible for performing internal audits of the Biosolids Management Program.
12. **Office of Public Affairs:** Assists BMP Coordinator with public outreach and communication activities. Responsible for communications with the media.
13. **Purchasing:** Responsible for issuing of biosolids hauling contract. Works with BMP Coordinator on resolving/clarifying contractual issues.
14. **Regulatory Compliance Division:** Responsible for correspondence with regulatory agencies and safety training for EBMUD staff.
15. **Resource Recovery Program:** Responsible for monitoring trucked waste at the MWWTP.
16. **Security and Emergency Division:** Responsible for emergency operations at EBMUD.
17. **Wastewater Engineering Division:** Responsible for providing engineering support for issues regarding the wastewater system. Responsible for providing support for contract request proposals and selection of contractor.
18. **Wastewater Treatment Division:** Responsible for the daily operations, preventative maintenance and repairs of the wastewater treatment plant. Provides input and recommendations regarding biosolids operations. Responsible for coordinating with contractors and providing support to the contractors when loading biosolids at the wastewater treatment plant. Responds to emergencies of the biosolids management activities.
19. **Wastewater Department Director:** Responsible for oversight of activities in the Wastewater Department. Responsible for the overall biosolids program. Approves BMP Manual for the Biosolids Management Program. Assigns the BMP Coordinator. Designates members of the BMP Steering Committee.

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### 8.1 Purpose & Scope

1. Identify how EBMUD ensures that staff is competent to perform their assigned duties and tasks.
2. Define training that is offered to EBMUD staff regarding the BMP.
3. Define the contractor's training responsibilities as they relate to EBMUD's BMP.

### 8.2 Responsibilities

**BMP Coordinator:** Oversees the BMP training program and record keeping. Ensures that awareness training is conducted on the BMP roles and assigned responsibilities related to the Biosolids Value Chain.

**BMP Team:** Assists the BMP Coordinator with BMP training and record keeping.

**Contractors:** Train their employees on biosolids handling and Biosolids EMS-related duties and responsibilities. Maintain and provide training records to EBMUD upon request.

**Environmental Services Division:** Trains employees to conduct field inspections of source control related, trucked wastes and biosolids activities conducted by Contractors, i.e., biosolids transportation, land application, ADC, and or disposal.

**Laboratory Services Division:** Trains employees on proper testing and reporting procedures. Maintains lab specific training records.

**Regulatory Compliance Division:** Provides general safety training through the Workplace Health and Safety section.

**Wastewater Treatment Division:** Provides training for operators and maintenance on their responsibilities and duties and maintains Operations specific training records.

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### **8.3 Procedure**

- 8.3.1 Prior to employment by EBMUD, an individual must meet basic defined requirements for each job classification. These may include but are not limited to level of education, educational focus, years of experience in related job assignments, supervisory experience, certifications/licenses required. Each employee must pass a probationary period during which their skills and competency are monitored and reviewed by their supervisor. EBMUD has prescribed procedures for developing employee performance plans and performance reviews. This process provides opportunities to identify areas where additional training is needed for an individual to be successful in his/her job.
- 8.3.2 Training available by EBMUD includes the following:
- a. Wastewater Treatment Division: See Responsibilities above. For entry level employees there is a Trades Training Program and Operator-in-Training Program administered by the Wastewater Treatment Division, which has set requirements that each employee must meet.
  - b. Environmental Services Division: See Responsibilities above.
  - c. Laboratory Services Division: See Responsibilities above.
  - d. Regulatory Compliance Division: See Responsibilities above.
- 8.3.3 BMP EMS training is conducted by the BMP Coordinator or his designee. The method of presentation is determined by the BMP Coordinator. BMP EMS employee training records reside in the Biosolids BMP folder <W:\NAB\ems>.
- 8.3.4 As stated in EBMUD's biosolids handling contract, contractors are expected to provide training to their employees. Contractors are to document training and provide records to EBMUD upon request.

Document Name: Emergency Preparedness and Response	Effective Date: 10/22/13
Document I.D.: E 11 - Emergency Preparedness 10-22-13	Supersedes: 10/23/12
Approved By: Director of Wastewater	Version 9

### **11.1 Purpose & Scope**

To establish and maintain emergency preparedness and response plans and procedures to respond effectively to emergency situations associated with biosolids activities, including biosolids contractors' activities.

### **11.2 Responsibilities**

**BMP Coordinator:** Ensure the emergency preparedness and response procedures specific to biosolids activities are established and maintained by Wastewater Treatment Division (WTD). Work with Contractors to establish and maintain emergency preparedness and response procedures related to their biosolids activities.

**BMP Team:** Assists the BMP Coordinator as requested.

**Contractors:** Handle emergency situations for their responsible biosolids activities per established procedures.

**Office of Public Affairs:** Handles contact with the media, verbal or written, and issues formal statements as a result of emergency situations.

**Wastewater Treatment Division:** Responds to abnormal and emergency situations associated with biosolids production, handling, and reuse. Administers the Wastewater Emergency Preparedness Program which includes development of response plans, staff training and development of emergency responses systems.

### **11.3 Procedure**

11.3.1 The Wastewater Emergency Preparedness Program shall be complied with when abnormal and emergency situations occur. This program shall be maintained by WTD.

11.3.2 Biosolids contractors' should establish and maintain their BMP that includes response procedures to biosolids emergencies. These plans must be reviewed by the BMP Coordinator.

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11.3.3 CAPA process (see *Element 14*) may be initiated and implemented for addressing biosolids management activities relate to emergency preparedness and responses.

Document Name: Documentation, Document Control, and Record Keeping	Effective Date: 10/22/13
Document I.D.: E 12 - Documentation 10-22-13	Supersedes: 10/23/12
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### 12.1 Purpose & Scope

1. Identify documents that require control and define a document control system that establishes documentation procedures for creating, reviewing, revising, approving, retaining and disposing controlled Biosolids documents, and how the documents are made available.
2. Identify records that must be established for the BMP, and how the records will be maintained and made available.

### 12.2 Responsibilities

**BMP Coordinator:** Maintains the document control system for BMP documents.

**BMP Team:** Creates, maintains, updates and posts the controlled Biosolids BMP documents.

**Environmental Services Division:** Maintains pretreatment, R2 and field inspection reports.

**Office of General Manager (Records Management):** Maintains EBMUD-wide documentation, document control and recordkeeping requirements.

**Laboratory Services Division:** Maintains analytical records.

**Office of Public Affairs:** Assists BMP Team with public correspondence and informational document development.

**Regulatory Compliance Division:** Corresponds with and maintains records of correspondence with regulatory agencies.

**Contractors:** Establish and conform to documentation and recordkeeping requirements for their activities.

**Wastewater Treatment Division:** Maintains SOPs, Operational Controls, Process Control Memos, Operations and Maintenance Manuals, weighmaster tickets, and records related to plant operations.

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## 12.3 Procedures

12.3.1 BMP Coordinator, with input from BMP Team, identifies the biosolids documents that require control.

- a. Documents require control if they define or establish instructions, procedures or practices for the BMP. Controlled documents are reviewed, updated and approved by authorized personnel.
- b. Documents of internal origin are those created and kept current by EBMUD.
- c. Documents of external origin are those not created by EBMUD such as regulations and permits and other requirements (*See Element 4*).
- d. *Attachment 12 A* summarizes the internal and external controlled BMP documents. Only the final approved version of the documents is controlled.

12.3.2 Creating and Revising Controlled Documents of Internal Origin

- a. Policy: *See Element 2*.
- b. BMP Manual Elements: A [template](#) and [procedure](#) in the BMP folder [W:\NAB\ems](#) have been developed for creating and revising the BMP Manual. The previously approved versions of the BMP Manual will be retained for at least five years.
- c. Other controlled documents of internal origin shall be created, revised, approved and maintained in accordance with the responsible divisions' requirements.

12.3.3 BMP Coordinator, with input from BMP Team, identifies records that must be established for the BMP

- a. Records establish proof of the biosolids management activities being conducted and demonstrate conformity to the BMP requirements. The records must be secured so that changes are not made to the final record.
- b. Records of internal origin are those created and maintained by EBMUD.
- c. Records of external origin are those created and maintained by outside parties, including Contractors.
- d. BMP-specific records will be retained for at least five years and will contain the records title, date, approval date, and name of the person approving the record.
- e. *Attachment 12B* summarizes the internal controlled BMP records.

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12.3.4 Accessing Controlled Documents and Records

- a. Attachment 12A and 12B contain information on the location of controlled documents and records.
- b. Websites have been launched to allow easy access for interested parties to controlled documents and records, as determined by the BMP Coordinator. (See also *Element 6&9.*) The BMP Internet website is: <http://www.ebmud.com/our-water/wastewater-treatment/wastewater-treatment-programs/environmental-management-system> The Biosolids EMS Intranet website is located at: [http://ww-web-01/bio/bio\\_index.cfm](http://ww-web-01/bio/bio_index.cfm)

12.3.5 Documents and records should be retained, stored, retrieved and disposed in accordance with EBMUD's document control and recording keeping requirements or legal requirements, whichever is more stringent, or as specified in 12.3.2 and 12.3.3 above.

12.3.6 Documents and records that Contractors are required to maintain are identified through the [Biosolids Handling Services Contract](#).

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### Attachment 12A - EBMUD Biosolids Program Controlled Document List

Documents of Internal Origin				
Category	Document	Location	Responsible Division	Approval
Contractor	Biosolids Handling Services Contract	DOX	Purchasing Division	Director of WW Department/ Purchasing Agent
District Strategic Plan	Strategic Plan	<a href="http://ebmud.com/about/mission">http://ebmud.com/about/mission</a>	OBR	Board of Directors
District-wide Document Control and Recordkeeping Requirement	EBMUD Records Retention Schedule	Intranet ( <a href="http://ebmudnet/Records-Management/recordsretentionschedulepage.htm">http://ebmudnet/Records-Management/recordsretentionschedulepage.htm</a> )	Office of the General Manager	Board of Directors
Emergency	Wastewater Emergency Preparedness Program	Intranet ( <a href="http://wastewater/wtdadmin/EP/index.htm">http://wastewater/wtdadmin/EP/index.htm</a> )	WTD	Manager of Wastewater Treatment Division
EMS Manual	Biosolids EMS Manual	Biosolids EMS Internet	BMP Coordinator	Director of WW Department
Health & Safety	Required Safety Practices	Intranet ( <a href="http://ebmudnet/Regulatory-Compliance/WHS-RSPs/RSPsNumb.htm">http://ebmudnet/Regulatory-Compliance/WHS-RSPs/RSPsNumb.htm</a> )	RCO	Manager or Workplace Health and Safety
Human Resources	Job descriptions	<a href="http://ebmud.com/about/jobs/job-descriptions-and-salary-information">http://ebmud.com/about/jobs/job-descriptions-and-salary-information</a>	Human Resources	Manager of Human Resources
Laboratory	Lab SOPs Analytical, QA and Safety	Intranet/LIMS ( <a href="http://wastewater/lab-services/cgi-bin/cfftp.cfm">http://wastewater/lab-services/cgi-bin/cfftp.cfm</a> )	LSD	QAO/ Manager of LSD
	Chemical Hygiene Plan	Intranet ( <a href="http://wastewater/lab-services/lmsdocs/CHPmanual.pdf">http://wastewater/lab-services/lmsdocs/CHPmanual.pdf</a> )	LSD	QAO/ Manager of LSD
	Laboratory Quality Assurance Manual	Intranet ( <a href="http://wastewater/lab-services/WPPUBLIC/QA/QAmanual/QualityAssuranceManual.pdf">http://wastewater/lab-services/WPPUBLIC/QA/QAmanual/QualityAssuranceManual.pdf</a> )	LSD	Manager of LSD
Policy	Biosolids Policy	Intranet ( <a href="http://ebmudnet/office-of-the-gm/cnts.htm">http://ebmudnet/office-of-the-gm/cnts.htm</a> )	Office of the General Manager	Board of Directors
Pretreatment and Trucked Waste	EBMUD Ordinance No. 355-11	<a href="http://www.ebmud.com/sites/default/files/pdfs/wastewater-control-ordinance-8-22-2013.pdf">http://www.ebmud.com/sites/default/files/pdfs/wastewater-control-ordinance-8-22-2013.pdf</a>	ESD	Board of Directors

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<b>Documents of Internal Origin</b>				
<b>Category</b>	<b>Document</b>	<b>Location</b>	<b>Responsible Division</b>	<b>Approval</b>
Regulatory Compliance	EBMUD Environmental Compliance Manual	Intranet ( <a href="http://ebmudnet/Regulatory-Compliance/EC-MANUAL-2011/ECM-2011.htm">http://ebmudnet/Regulatory-Compliance/EC-MANUAL-2011/ECM-2011.htm</a> )	RCO	Office of the General Counsel
Treatment	General Operations SOPs, Process Controls, O&Ms	Intranet ( <a href="http://wastewater/OMS/oms/omsFrame.cfm">http://wastewater/OMS/oms/omsFrame.cfm</a> )	WTD	Wastewater Treatment Superintendents
	Class B Biosolids DQO	Intranet ( <a href="http://ebmudnet/Regulatory-Compliance/EC-DQO/Biosolids-Class-B-DQO.pdf">http://ebmudnet/Regulatory-Compliance/EC-DQO/Biosolids-Class-B-DQO.pdf</a> )	Biosolids DQO Committee	Biosolids DQO Committee

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Documents of External Origin				
Category	Document	Location	Responsible Division	Approval
Health and Safety	Material Safety Data Sheets	Lab Manager/Lab QA officer	LSD	Not Applicable
Laboratory	Laboratory Certification	Intranet ( <a href="http://wastewater/lab-services/lmsdocs/certification/certification.pdf">http://wastewater/lab-services/lmsdocs/certification/certification.pdf</a> )	Not Applicable	Not Applicable
Legal, Regulatory and Other Requirements	Code of Federal Regulations, State and Local Regulations, Other Requirements	BMP Manual	Not Applicable	Not Applicable
Regulatory	EBMUD NPDES Permit issued by California Regional Water Quality Control Board San Francisco Bay Region	Intranet ( <a href="http://ebmudnet/Wastewater/docs/EBMUD%20Final%20Order%20R2-2010-0060.pdf">http://ebmudnet/Wastewater/docs/EBMUD%20Final%20Order%20R2-2010-0060.pdf</a> )	Not Applicable	Not Applicable
	Air Permit issued by Bay Area Air Quality Management District (Facility #A0591)	<a href="http://www.baaqmd.gov/Divisions/Engineering/Title-V-Permit-Programs/Title-V-Permits/Alameda/A0591/East-Bay-Municipal-Utility-District.aspx">http://www.baaqmd.gov/Divisions/Engineering/Title-V-Permit-Programs/Title-V-Permits/Alameda/A0591/East-Bay-Municipal-Utility-District.aspx</a>	Not Applicable	Not Applicable

**Notes:**

- Biosolids EMS Internet: <http://www.ebmud.com/our-water/wastewater-treatment/wastewater-treatment-programs/environmental-management-system>  
Biosolids EMS Intranet: [http://ww-web-01/bio/bio\\_index.cfm](http://ww-web-01/bio/bio_index.cfm)
- Biosolids EMS Folder on the Wastewater Server: <W:\NAB\ems>

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### Attachment 12B - EBMUD Biosolids Program Controlled Record List and Location

Category	Record Name / Type/Description	Location	Responsible Division
EMS Specific	Annual Biosolids Management Program Performance Report	Biosolids EMS Internet <sup>1</sup>	BMP Coordinator
	Biosolids complaints	Biosolids EMS Server	BMP Coordinator
	Corrective/Preventative Action Plans - results	Biosolids EMS Server	BMP Coordinator
	Internal Audit Summaries/Findings	Biosolids EMS Server	BMP Coordinator
	3 <sup>rd</sup> -Party Audit Report	Biosolids EMS Intranet/Internet <sup>1</sup>	BMP Coordinator
Pretreatment	Sewer Discharge Permits	WW Server at <a href="#">W:\NAB\IDS</a>	ESD
	Self-Monitoring & Compliance Report submitted by permitted facilities	Intranet (PIMS) <a href="http://wastewater/source-cont/pims.htm">http://wastewater/source-cont/pims.htm</a>	ESD
	Inspection Reports (for industrial and commercial facilities)	WW Server at <a href="#">W:\NAB\FSS</a>	ESD
	Enforcement Notices/Orders	WW Server at <a href="#">W:\NAB\IDS</a>	ESD
	Annual Pretreatment and Pollution Prevention Report	<a href="http://www.ebmud.com/for-customers/for-commercial-customers/wastewater-treatment/pretreatment-and-pollution-prevention-an">http://www.ebmud.com/for-customers/for-commercial-customers/wastewater-treatment/pretreatment-and-pollution-prevention-an</a>	ESD
	Trucked Non-Hazardous Waste Disposal Permit	R2 Program staff	ESD/R2
Treatment and Biosolids	Compliance Reports for (NPDES and Air permits)	WW Server at <a href="#">W:\OPS\WTD - Admin\Regulatory Compliance\MWWTP</a>	RCO and WTD
	Annual EPA 503 Sludge Report	Biosolids EMS Intranet	WTD
	Monthly 503 Sludge Monitoring Report	Biosolids EMS Intranet	WTD, LSD
	Monthly Data Worksheets (MDWs)	WW Server at <a href="#">W:\OPS\MDW</a>	WTD
	Semiannual Sludge Monitoring Report for RWQCB	Operations Administration Building, MWWTP	WTD
	Weighmaster Certificates	MDW cubicle	WTD
	Biosolids Inspection Reports	Biosolids EMS Server	ESD
Laboratory	Laboratory Service Requests	Intranet/LIMS ( <a href="http://wastewater/lab-services/cgi-bin/lims-queries/main.cfm">http://wastewater/lab-services/cgi-bin/lims-queries/main.cfm</a> )	LSD
Maintenance	Maintenance Records	Maximo	WTD

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Category	Record Name / Type/Description	Location	Responsible Division
Training	Biosolids BMP Training	Biosolids EMS Server	BMP Coordinator
	WHS and Employee Development Training	Intranet ( <a href="http://database-info/cgi-bin/enterprise_eis.cfm">http://database-info/cgi-bin/enterprise_eis.cfm</a> )	Employee Development Division
EMS Specific	Terra Renewal Monthly Biosolids Report	Biosolids EMS Server	WED

**Notes:**

- Biosolids EMS Internet: <http://www.ebmud.com/our-water/wastewater-treatment/wastewater-treatment-programs/environmental-management-system>  
Biosolids EMS Intranet: [http://ww-web-01/bio/bio\\_index.cfm](http://ww-web-01/bio/bio_index.cfm)
- Biosolids EMS Folder on the Wastewater Server: W:\NAB\ems

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### 13.1 Purpose & Scope

To establish and maintain regular monitoring and measurement procedures and practices for biosolids management activities.

### 13.2 Responsibilities

**BMP Coordinator:** Facilitates identification, review and updating of monitoring and measurement practices.

**BMP Team:** Participates in the identification, review and updating of monitoring and measurement practices.

### 13.3 Procedure

13.3.1 The BMP Coordinator, with input from BMP Team, identifies those biosolids management activities that should be monitored and measured on a regular basis to ensure integrity of the Biosolids Management Program.

13.3.2 The BMP Coordinator, with input from BMP Team, identifies the process to be used for monitoring and measuring BMP Program activities, the frequency for doing so, the primary person responsible for ensuring the monitoring and measurement is done, and the means by which the monitoring and measurement activity is documented. This information is used to develop the matrices shown in Attachment 13.1.

13.3.3 Operators perform routine monitoring and measurements to make sure the processes are operating within their regulatory limits. The monitoring and measurement activities related to Critical Control Points are identified in Attachment 13.2. In addition, plant operations are monitored and measured pursuant to WTD's Readings and Rounds document.

13.3.4 The BMP Coordinator communicates monitoring and measurement responsibilities to responsible parties (*see Element 8*).

13.3.5 Monthly 503 biosolids monitoring reports are prepared by the Laboratory and reviewed by Treatment Plant Superintendent.

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13.3.6 Contractor monitoring and measurement requirements are contained in the Biosolids Handling Services Agreements. The Wastewater Control Inspector monitors the contractors for compliance with legal and other requirements while loading and hauling EBMUD biosolids. An inspector also performs routine inspections of the land application and landfill sites. An inspection report is submitted after each inspection. BMP Coordinator also reviews the Contractor's monthly land application reports.

13.3.7 The adequacy of the monitoring and measurement procedures as well as the information contained in Attachment 13.1, Attachment 13.2 and contractor's performance, shall be reviewed and revised as needed.

13.3.8 All records produced through monitoring and measurement activities will be maintained in accordance with Element 12.

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### ATTACHMENT 13.1 – Monitoring and Measurement for Biosolids Management Program

<b>Things to Be Monitored/Measured</b>	<b>Process for Monitoring/Measuring</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Documentation Method</b>
Changes in operations that may lead to a change in a CCP/OC	BMP Team Meetings	Per EMS Element 17	BMP Coordinator	Meeting minutes
Conformance with documentation and record keeping requirements	Internal Audit	Per EMS Element 16	BMP Coordinator	Audit Findings
Compliance with legal and other requirements.	Routine Monitoring Reports (Monthly 503 Monitoring Report; Biosolids Inspection Report; Contractor's Monthly Biosolids Report)	Per EMS Element 16	BMP Coordinator	Audit Findings
Critical Control Points/Operational Controls	See Attachment 13.2	See Attachment 13.2	See Attachment 13.2	See Attachment 13.2
Effectiveness of emergency response procedures	Internal Audit	Per EMS Element 16	BMP Coordinator	Audit Findings
Legal and other requirements	As specified in EMS Element 4	Per EMS Element 4	BMP Coordinator	None
Management Involvement	BMP Team meetings and BMP Steering Committee meetings	Per EMS Element 17	BMP Coordinator	Meeting minutes
	General Manager Meetings	Per EMS Element 17	BMP Coordinator	Meeting minutes
	Board of Director Meetings	Per EMS Element 17	BMP Coordinator	Meeting minutes
Performance against policy commitments	Internal Audit	Per EMS Element 16	BMP Coordinator	Audit Findings
Progress on action items and Goals and Objectives	As specified in EMS Element 5	Per EMS Element 5	BMP Coordinator	Biosolids EMS Folder on server
Progress in performing corrective actions for nonconformances and CAPA plans	As specified in EMS Element 14	Per EMS Element 14	BMP Coordinator	Biosolids EMS folder on server

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<b>Things to Be Monitored/Measured</b>	<b>Process for Monitoring/Measuring</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Documentation Method</b>
Progress on completing internal audits	As specified in EMS Element 16	Per EMS Element 16	BMP Coordinator	Biosolids EMS folder on server
Stakeholder Interests	As specified in EMS Elements 6/9	Per EMS Element 6/9	BMP Coordinator	Biosolids EMS folder on server
	Management Review meetings	Per EMS Element 17	BMP Coordinator	Meeting minutes

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### ATTACHMENT 13.2 – Monitoring and Measurement for Critical Control Points

		Monitoring and Measurement			
Biosolids Value Chain	Critical Control Points	Process	Frequency	Primary Responsible Party	Method of Documentation
<b>Pretreatment and Collection</b>	Dischargers: <ul style="list-style-type: none"> <li>• Industrial &amp; commercial</li> <li>• Residential</li> </ul>	<ul style="list-style-type: none"> <li>• IU site inspections and monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Based conditions of IU permit and/or plant upset condition</li> </ul>	<ul style="list-style-type: none"> <li>• Field Inspectors</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection Reports</li> </ul>
		<ul style="list-style-type: none"> <li>• Plant Influent sampling per NPDES permit requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• LIMS</li> </ul>
		<ul style="list-style-type: none"> <li>• Sampling of Plant Influent for volatiles, metals and other pollutants of concern</li> </ul>	<ul style="list-style-type: none"> <li>• Semiannual and quarterly</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• LIMS</li> </ul>
<b>Wastewater Treatment and Solids Generation</b>	Screenings & Grit Removal <ul style="list-style-type: none"> <li>• IPS and Grit Removal</li> </ul>	<ul style="list-style-type: none"> <li>• IPS flow rate</li> </ul>	<ul style="list-style-type: none"> <li>• Daily</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• DCS, MDW</li> </ul>
		<ul style="list-style-type: none"> <li>• pH</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• DCS</li> </ul>
	<ul style="list-style-type: none"> <li>• Resource Recovery (R2) Receiving Station</li> </ul>	<ul style="list-style-type: none"> <li>• Truck waste sampling</li> </ul>	<ul style="list-style-type: none"> <li>• 10% trucks that enter</li> </ul>	<ul style="list-style-type: none"> <li>• Field Inspectors</li> </ul>	<ul style="list-style-type: none"> <li>• LIMS</li> </ul>
	Primary Treatment	<ul style="list-style-type: none"> <li>• Flow rate out</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• DCS</li> </ul>
		<ul style="list-style-type: none"> <li>• Monitoring of primary effluent (secondary influent) for TSS and BOD</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly</li> </ul>	<ul style="list-style-type: none"> <li>• Operator</li> </ul>	<ul style="list-style-type: none"> <li>• LIMS</li> </ul>

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		<b>Monitoring and Measurement</b>			
<b>Biosolids Value Chain</b>	<b>Critical Control Points</b>	<b>Process</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Method of Documentation</b>
		• Monitoring of sludge blanket depth	• Daily	• Operator	• DCS, MDW
		• Ferric feed	• Daily	• Operator	• DCS
	Secondary Treatment	• Mean cell residence time (MCRT)	• Daily	• Operator	• DCS
		• Sludge blanket depth	• Daily during day shift. All shifts if above 3 ft.	• Operator	• MDW
		• Nocardia and filamentous bacteria levels	• Biweekly	• Operator	• LIMS
		• Sludge Volume Index (settleability)	• Once per shift	• Operator	• MDW
		• MLSS concentration	• Once per shift	• Operator	• MDW
		• RAS/WAS concentration	• Once per shift	• Operator	• MDW
		• RAS/WAS flow	• Daily	• Operator	• MDW
		• Vent gas purity on reactor deck	• Continuous	• Operator	• DCS
<b>Solids Stabilization</b>	Resource Recovery (R2) and Septage Receiving Station	• Truck waste sampling	• 10% of trucks that enter	• Field Inspector	• Inspection Reports

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		<b>Monitoring and Measurement</b>			
<b>Biosolids Value Chain</b>	<b>Critical Control Points</b>	<b>Process</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Method of Documentation</b>
	Anaerobic Digestion	• Detention time	• Daily	• Operator	• DCS, MDW
		• Temperature	• Continuous	• Operator	• DCS
		• Volume of sludge in digesters	• Continuous	• Operator	• DCS
		• Cover level	• Continuous	• Operator	• DCS
		• Alkalinity	• Five times a week	• Operator	• LIMS
		• Volatile acids	• Five times a week	• Operator	• LIMS
		• Solids loading	• Daily	• Operator	• MDW
		• Ammonia concentration	• Weekly	• Operator	• LIMS
		• CO <sub>2</sub> level in digester gas	• Daily	• Operator	• LIMS
		• Volatile solid reduction	• Daily	• Operator	• MDW
		• Gas production	• Continuous	• Operator	• DCS
		• Ferric feed	• Continuous	• Operator	• DCS
		• H <sub>2</sub> S concentration	• Daily	• Operator	• LIMS
<b>Solids Conditioning and Handling</b>	Gravity Sludge Thickeners (GST) - Primary Sludge Thickening (intermittent operation)	• Sludge blanket depth in GST	• Daily	• Operator	• Log sheet
		• Flow rate out	• Continuous	• Operator	• DCS

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		<b>Monitoring and Measurement</b>			
<b>Biosolids Value Chain</b>	<b>Critical Control Points</b>	<b>Process</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Method of Documentation</b>
	Gravity Belt Thickeners (GBT) - WAS Thickening	• Polymer feed rate	• Daily	• Operator	• Log sheet
		• Solids concentration of thickened WAS	• Daily	• Operator	• MDW
		• WAS flow rate to GBT	• Continuous	• Operator	• DCS, MDW
	Sludge Centrifuge Dewatering	• Polymer feed rate	• Continuous	• Operator	• DCS
		• Cake solids concentration	• Daily	• Operator	• MDW
		• Centrifuge feed pump rate	• Continuous	• Operator	• DCS
		• Centrate solids concentration	• Five times a week	• Operator	• LIMS
	Biosolids Storage and Loading to Trucks	• Cake level in the hopper	• Continuous	• Operator	• DCS
		• Truck weighing process	• Each truck	• Operator	• Weighmaster certificate
		• Visual inspection of distribution in truck	• Each truck	• Operator	• None
		• Number of centrifuges online	• Continuous	• Operator	• DCS
		• Watch of truck rear gate/dripping	• Each truck	• Operator	• None

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		<b>Monitoring and Measurement</b>			
<b>Biosolids Value Chain</b>	<b>Critical Control Points</b>	<b>Process</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Method of Documentation</b>
<b>Biosolids Transportation</b>	Biosolids Cake Transport, including Transport Route	<ul style="list-style-type: none"> <li>Inspections by EBMUD with drivers on training programs, awareness and knowledge of the basic regulations and requirements</li> </ul>	<ul style="list-style-type: none"> <li>Monthly</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
<b>Land Application and Storage</b>	Site Location	<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
	1. Location of neighbors				
	2. Setback from surface water				
	Biosolids application rate and application procedures	<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
Specified Land use (grazing and harvesting practices)		<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
		<ul style="list-style-type: none"> <li>Application rates (pounds per acre for regulated pollutants/nutrients), total pounds applied to date, and summary of monthly generator analytical results</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Biosolids Contractor</li> </ul>	<ul style="list-style-type: none"> <li>Report</li> </ul>

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		<b>Monitoring and Measurement</b>			
<b>Biosolids Value Chain</b>	<b>Critical Control Points</b>	<b>Process</b>	<b>Frequency</b>	<b>Primary Responsible Party</b>	<b>Method of Documentation</b>
	Site Boundary to limit public access	<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
	Location of loading area, staging area, and truck cleaning area	<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Monthly during application period</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>
<b>ADC/Land Disposal – All Facilities</b>	Unloading areas	<ul style="list-style-type: none"> <li>Field inspections by EBMUD</li> </ul>	<ul style="list-style-type: none"> <li>Bimonthly</li> </ul>	<ul style="list-style-type: none"> <li>Field Inspector</li> </ul>	<ul style="list-style-type: none"> <li>Field inspection report</li> </ul>

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### 14.1 Purpose & Scope

1. Define the process that is used for reporting non-compliances.
2. Define the closed-loop corrective and preventive action (CAPA) process that is used to address non-fulfillment of a requirement of EBMUD's BMP.

### 14.2 Responsibilities

**BMP Coordinator:** Works with appropriate staff to address, document and report nonconformances. Compiles and summarizes the event reports for the BMP Performance Report.

**BMP Team:** Assists the BMP Coordinator for addressing, documenting, and reporting the event of significance.

**Regulatory Compliance Office (RCO), Environmental Compliance Section:** Notifies regulatory agencies of hazardous material/waste spills or releases and supports efforts to contain, characterize and dispose of materials as necessary; supports the Emergency Operations Plan until the primary respondents arrive.

### 14.3 Procedure

14.3.1 Noncompliance events shall be reported to the RCO, in conformance with EBMUD's [Environmental Compliance Manual](#) and EBMUD's Procedure 705.

14.3.2 When the BMP Coordinator determines that there is actual or potential non-fulfillment of requirements of EBMUD's BMP (also called nonconformances), the BMP Coordinator shall implement the CAPA process. Nonconformances may be identified through routine monitoring and measurement, internal audits, and external audits. "Triggers" for starting the CAPA process may include:

- a. Non-compliance with applicable legal or regulatory requirements (see *Element 4 and Element 13*);
- b. Public input regarding the BMP (see *Element 6&9*);
- c. Incidents that result in negative environmental impacts (see *Element 11*);
- d. Routine inspection of contractor activities (see *Element 13*);

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- e. Internal audit findings (*see Element 16*);
- f. External audit findings;
- g. Findings from management reviews (*see Element 17*);
- h. Observed ineffectiveness of operational controls (*see Element 3&10 and Element 13*);
- i. Any other event that the BMP Coordinator deems appropriate to trigger the process.

14.3.3 The CAPA process is illustrated in Figure 14-1. Actions taken shall be appropriate to the magnitude of the problem and the potential environmental impacts. The BMP Coordinator shall work with members of the BMP Team or other parties the Coordinator deems essential to conducting a thorough CAPA process. The CAPA process develops a specific CAPA plan to address the nonconformity. Following is additional information regarding the CAPA process.

- a. Identify the nonconformity
  - i. Document what has been identified as a nonconformity that has triggered the CAPA process.
- b. Identify actions needed to correct the nonconformity
  - i. Specify responsible parties, additional resources if needed, and due dates for each action. Monitor action items for completion.
- c. Investigate the nonconformity to determine the root cause
  - i. Through interviews, discussions, and document review, identify the root cause for the nonconformance. Root causes may include, but are not limited to: equipment malfunction; operator error; process constraints; public perception; lack of personnel resources.
- d. Identify actions needed to avoid the recurrence of the nonconformity based on the root cause
  - i. Specify responsible parties, additional resources if needed, and due dates for each action item. Monitor action items for completion.
- e. Recommend changes to the Biosolids Policy, programs, plans, operational controls or monitoring and measurement procedures to prevent future nonconformances
  - i. Specify the changes required, the responsible party, additional resources if needed, and due dates for completion of change. Monitor the action items for completion.
- f. Document the completion of the corrective and preventative actions specified

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- i. The BMP Coordinator shall review progress on action items in open CAPA plans and document findings.
- g. Review the effectiveness of the corrective and preventative actions and continue the process as needed. Document when the process is fully completed

14.3.4 The BMP Coordinator shall document the nonconformance and related CAPA process.

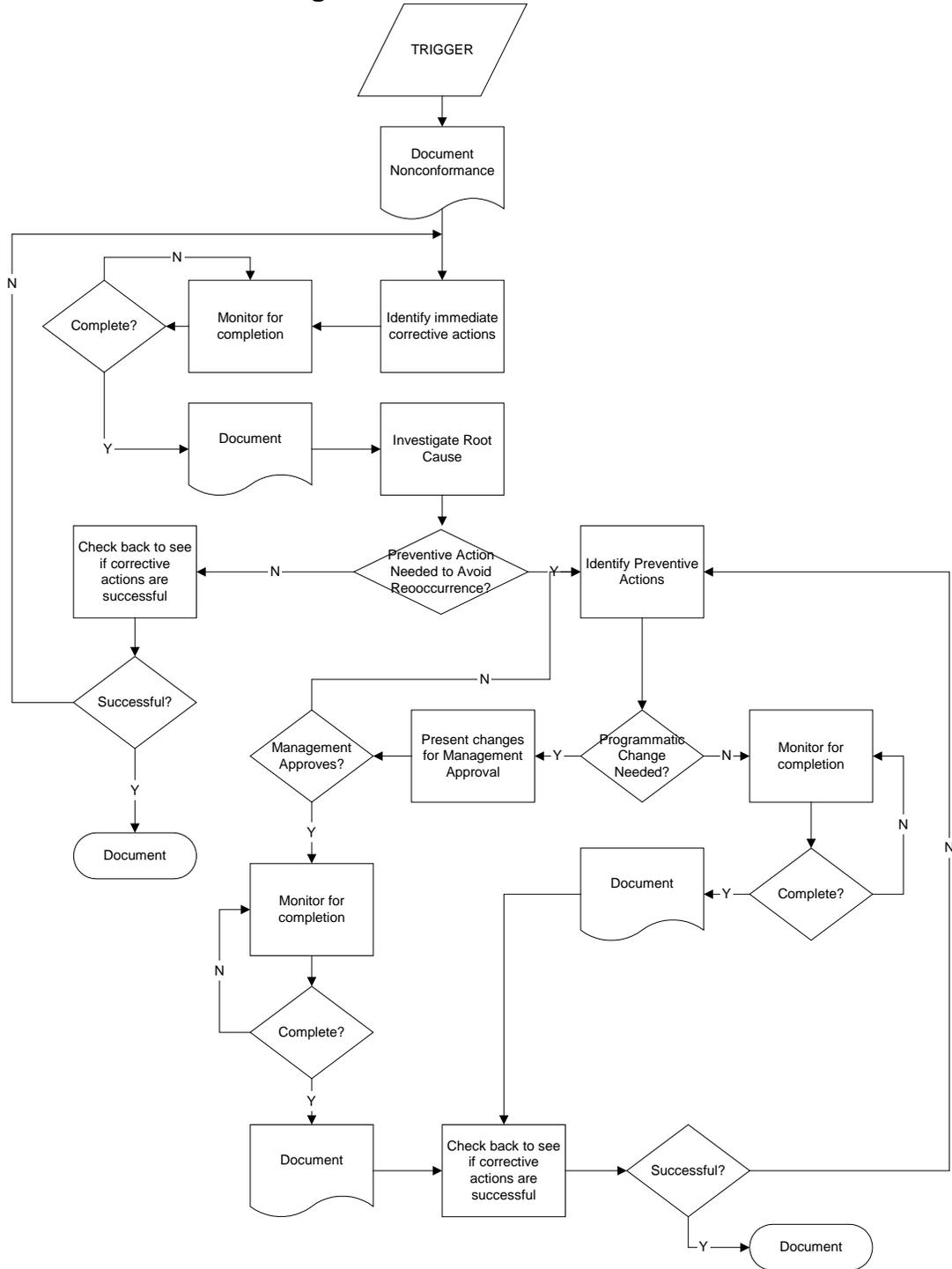
14.3.5 The BMP Coordinator shall report on new or ongoing CAPA processes at the management review meetings.

#### **14.4 References**

1. [Environmental Compliance Manual](#), 2010
2. EBMUD [Procedure 705](#), Reporting of Emergency and Hazardous Conditions, September 2009

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**Figure 14 – 1 CAPA Process**



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### **15.1 Purpose & Scope**

1. Define the purpose and intent of a Performance Report, and identify key required elements for the report.
2. Identify the means by which the report will be made available to interested parties.

### **15.2 Responsibilities**

**BMP Coordinator:** Leads the BMP team in the development of the Performance Report. Reviews Performance Report with BMP Steering Committee for approval. Ensures report is available to interested parties.

**BMP Team:** Assists the BMP Coordinator in preparing, reviewing, and finalizing the Performance Report.

**BMP Steering Committee:** Reviews and provides comments on the Performance Report.

### **15.3 Procedures**

15.3.1 The BMP Performance Report shall be a document that provides information to interested parties regarding EBMUD's BMP. Contents of the report may include, but are not limited to, monitoring, measurements and other results that demonstrate the performance of the program relative to EBMUD's policy commitments, goals, objectives, and legal requirements, including those activities performed by contractors; summaries of third party audit results; and progress toward achieving established goals and objectives, as well as future plans and goals for the program.

15.3.2 The BMP Performance Report shall be prepared on an annual basis. The final report shall be issued by March 31 of each calendar year and shall report on the previous year's program activities.

15.3.3 The BMP Coordinator, with assistance from the BMP Team, will prepare the Performance Report.

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15.3.4 Review of the BMP Performance Report will be conducted by the BMP Steering Committee prior to transmittal to interested parties.

15.3.5 Communication of the Performance Report to interested parties will be conducted pursuant to *Element 6 & 9*.

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### **16.1 Purpose & Scope**

1. Define the purpose of internal audits and identify audits to be performed.
2. Establish and maintain a procedure for conducting internal audits of the BMP and reporting findings to management.

### **16.2 Responsibilities**

**BMP Coordinator:** Oversees development of audit scopes, selects internal audit team, schedules internal audits and reports audit findings to the BMP Team and BMP Steering Committee.

**BMP Team:** Assists the BMP Coordinator in the implementation of this procedure.

**Contractors:** Participate in the internal audit of their responsible biosolids activities.

**Lead Auditor:** Conducts the internal audit per established audit scope, schedule and criteria and provides audit findings to BMP Coordinator.

### **16.3 Procedure**

16.3.1 Internal audits shall be performed:

- a. To determine if EBMUD's BMP is meeting its policy commitments.
- b. To evaluate EBMUD's BMP performance relative to its goals and objectives
- c. To determine if EBMUD's BMP conforms with the requirements of the National Biosolids Partnership and/or ISO 14001.
- d. To determine if the BMP is being implemented according to the prescribed procedures defined in the BMP manual and if the BMP manual is maintained and updated as needed.
- e. To identify opportunities for improvement of EBMUD's Biosolids Management Program.

16.3.2 The internal audits will be performed based on the audit schedule. The BMP Coordinator may modify the schedule and/or increase the frequency of the audits at his/her discretion depending upon, but not limited to, findings of previous audits and/or changing circumstances.

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16.3.3 The BMP Coordinator shall establish the audit schedule. This schedule shall include the name of the audit, deadline for completion, and lead auditor. Lead Auditors are selected by the BMP Coordinator. Selection takes into consideration the individual's background as it relates to the subjects to be audited, as well as the ability of the individual to be objective in the audit process and conduct an impartial audit.

16.3.4 The Lead Auditor is responsible for selecting auditors as needed, conducting a thorough audit and reporting the results of the audit to the BMP Coordinator by the specified deadline. The Lead Auditor shall be responsible for coordinating interviews that may be required, gathering pertinent data, reviewing the data, making independent judgments regarding audit findings, and documenting audit findings.

16.3.5 The BMP Coordinator shall work with Lead Auditor to clarify the findings, as needed. The BMP Coordinator, with input from the Lead Auditor, determines if the CAPA process needs to be implemented for nonconformance found during the audit process (*see Element 14*).

16.3.6 The BMP Coordinator shall review internal audit findings and any recommendations for program modifications/enhancements at BMP Team and BMP Steering Committee meetings (*see Element 17*).

16.3.7 Findings from internal audits may be included in the annual Performance Report (*see Element 15*.)

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### **17.1 Purpose & Scope**

To describe the process for ongoing management review of EBMUD's BMP.

### **17.2 Responsibilities**

**BMP Coordinator:** Schedules and manages the management review meetings and tracks follow up action items.

**BMP Steering Committee:** Participates in BMP Steering Committee management review meetings.

**BMP Team:** Assists the BMP Coordinator with the needs related to the management review of the Biosolids Management Program. Participates in the BMP Team management review meetings.

### **17.3 Procedures**

#### 17.3.1 Establish Meetings

- a. The BMP Coordinator establishes the meeting dates for the following management meetings: BMP Team; BMP Steering Committee; General Manager; Board of Directors. The frequency of the meetings shall be at the discretion of the BMP Coordinator. However, there shall be at least two BMP Team meetings and two BMP Steering Committee meetings during the year. The BMP Steering Committee will decide if meetings with the General Manager and Board of Directors are needed. The BMP Coordinator shall update the meeting schedule as necessary.

#### 17.3.2 Procedure for BMP Team and BMP Steering Committee meetings.

- a. Prior to each meeting, the BMP Coordinator prepares agenda for the meeting. Meeting agendas may include the following topics:
  - i. Review of agenda
  - ii. Follow-up on action items from previous meeting
  - iii. Review of external audit results *[if one has been done since last meeting]*
  - iv. Review of internal program audit results
  - v. Review of internal compliance audit results
  - vi. Review of performance relative to policy commitments

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- vii. Communications with interested parties
- viii. Discussion of environmental performance
- ix. Status of goals and objectives progress
- x. Status of corrective and preventative action items
- xi. Effectiveness of program and any needed changes to policy– Is the program achieving desired results?
- xii. Things to be on watch for – changing circumstances that could impact our program
- xiii. Recommendations for improvement
- xiv. Action item review
- xv. Next meeting time
- b. The BMP Coordinator shall run each meeting and prepare the meeting minutes, including a list of action items with responsible parties and due dates.

#### 17.3.3 Procedure for General Manager Meetings

- a. The BMP Coordinator shall develop a presentation summarizing key points of the BMP discussed at the BMP Steering Committee meetings and route to BMP Steering Committee for review and comment.
- b. The BMP Coordinator and at least one member of the BMP Steering Committee shall attend the meeting with the General Manager and provide the presentation on the BMP.
- c. The BMP Coordinator shall issue minutes from each meeting, including a list of action items with responsible parties and due dates.

#### 17.3.4 Procedure for Board of Director's Meetings

- a. All Board communications shall follow EBMUD guidelines for submittals of memos and presentation information for the Board.
- b. The BMP Coordinator shall issue minutes from Board presentations within one week of the presentation, including a list of action items with responsible parties and due dates.

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## **Definitions**

1. **Biosolids Value Chain:** The entire EBMUD wastewater treatment process involved in the generation of biosolids. It includes wastewater pre-treatment and collection, wastewater treatment and solids generation, solids stabilization, conditioning and handling, solids storage and transportation, as well as biosolids use and disposition alternatives.
2. **BMP:** Acronym for Biosolids Management Program. Describes and documents the way EBMUD manages the biosolids process, by identifying the parts critical to compliance, by setting clear and attainable goals, by setting a mechanism for periodic review of all parts of the system, and by involving the public and stakeholders in the process.
3. **BMP Steering Committee:** Composed of the Managers of the Wastewater Treatment, Wastewater Engineering, Laboratory Services and Environmental Services Divisions and the Director of Wastewater.
4. **BMP Team:** Led by the BMP Coordinator. Composed of representatives from Wastewater Treatment Division, Wastewater Engineering Division, Laboratory Services Division, and Environmental Services Division.
5. **Brown Bag:** An EBMUD-wide seminar during lunchtime that discusses the progress or status of a current project.
6. **Code of Good Practice:** A broad framework of goals and commitments established by the National Biosolids Partnership to guide the production, management, transportation, storage, and use or disposal of biosolids.
7. **Contractors:** Private companies that provide biosolids management services under contract to EBMUD.
8. **Critical Control Points:** Those locations, unit processes, events, and activities throughout the biosolids value chain under the organization's direct control or influence that require effective policies, programs, procedures, practices, monitoring, and measurements to ensure the biosolids activities meet legal, quality and public acceptance requirements and do not have undesirable environmental impacts.

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9. **District Board of Directors:** Composed of seven (7) members elected by the public, representing 7 distinct geographic wards within EBMUD's overall water service area.
10. **DOX:** EBMUD online document database. This program is used to post and store District documents for viewing by EBMUD staff.
11. **Emergency Operations Plan (EOP):** An EBMUD -wide document which describes how EBMUD will organize itself and respond to large-scale emergencies. This plan is supplemented by individual contingency plans which are incorporated into the EOP by reference.
12. **EMS:** Acronym for Environmental Management System, which comprises 17 elements that describe and document the way EBMUD manages the biosolids process, by identifying the parts critical to compliance, by setting clear and attainable goals, by setting a mechanism for periodic review of all parts of the system, and by involving the public and stakeholders in the process.
13. **Emergency:** Anything real or threatened that would cause peril to EBMUD operations or employees.
14. **Goals:** Long-term performance improvement targets that are strategic in nature.
15. **Incident Command System (ICS):** The nationally used standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of a single or multiple incidents without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management resources to effectively accomplish stated objectives pertinent to an incident.
16. **Interested Parties:** Organizations and groups of individuals that show interest on the perceived or potential impacts of biosolids on the environment. Interested parties may be internal or external to EBMUD. External interested parties include those who (1) may be impacted by the biosolids program; (2) indicate an interest in the biosolids program; (3) conduct business with EBMUD relating to the biosolids program; or (4) make public-sector decisions that could affect the biosolids program. Internal interested parties may include any or all EBMUD employees and members of the EBMUD Board of Directors.

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17. **Internal BMP Audit Team:** Composed of Wastewater staff who have familiarity with biosolids, and may or may not be directly involved with the Biosolids EMS program.
18. **Legal Requirements:** The federal, state, and local laws and regulations that are applicable to EBMUD's biosolids management program activities.
19. **LIMS:** Acronym for Laboratory Information Management System. LIMS is a database used to track laboratory samples and prepare laboratory reports.
20. **Major Nonconformance:** Occurs when one of the elements has not been addressed or has not been addressed adequately. Major nonconformances can occur when an organization has documented a process or procedure, but has not implemented it or cannot demonstrate effective implementation.
21. **Management Review:** Review of the BMP program by the BMP Steering Committee that involves the managers of the Wastewater Treatment, Wastewater Engineering, Laboratory Services and Environmental Services Divisions and the Director of Wastewater.
22. **Minor Nonconformance:** A discrepancy within an element of the EMS elements of the organization's environmental management system that does not significantly affect the implementation of the environmental management system and commitment to conform with the Code of Good Practice – a systemic problem is not indicated.
23. **NBP:** Acronym for the National Biosolids Partnership, which is a not-for-profit alliance among the Water Environment Federation, the National Association of Clean Water Agencies, and the U.S. Environmental Protection Agency whose purpose is to promote safe and environmentally sound biosolids management.
24. **NMGP:** Acronym for the National Manual of Good Practice, which is a detailed set of documents that provides guidance on identifying critical control points and selecting appropriate management practices.
25. **Noncompliance:** A deviation from federal, state, or local laws, regulations or other compliance requirements applicable to the organization's biosolids management activities.
26. **Nonconformance:** A deviation in an organization's established biosolids management policy and environmental management system from the NBP Code

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of Good Practice principles or the requirements of the EMS Elements. Nonconformances include circumstances that have the potential to create a noncompliance situation or significant environmental impacts.

27. **Objectives:** Short term, interim steps to help achieve a specific goal.
28. **Operational Controls:** Ordinances, regulations, standard operating procedures, practices, technology, instrumentation and process controls, monitoring and other criteria developed, implemented, and maintained by an organization to ensure effective management of all critical control points associated with its biosolids management activities, including conformance with biosolids management policy requirements, and achievement of biosolids program goals and objectives.
29. **Peoplesoft Program:** A computer program developed by Peoplesoft, Inc., that maintains employee records for the Employee Development and Workplace Health and Safety Divisions.
30. **Process Control Memorandum (Memo):** A memorandum that conveys operating parameters that are specific to the operation and optimization of a particular piece of equipment.
31. **Process Team Meeting:** A meeting of operations personnel to discuss process control memos.
32. **R2:** Abbreviation for Resource Recovery. Resource Recovery is a program at the MWWTP that allows the acceptance of trucked non-hazardous waste at the plant.
33. **Spill:** Accidental discharge of sewage or biosolids material.
34. **Standard Operating Procedure (SOP):** A set of standard work instructions and practices for employees describing the “how to” steps in managing the critical control points of a specific management activity affecting biosolids quality and compliance with legal and self-imposed requirements.
35. **Tailgate Meeting:** Weekly meetings conducted during each work shift to provide general information, address safety issues, and refresh safety training.
36. **Tri-TAC:** Name reflects its membership and role: "Tri" from its three sponsoring organizations (the League of California Cities, the California Association of

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Sanitation Agencies, and the California Water Environment Association); and "TAC" from its role as a technical advisory committee. Tri-TAC monitors both regulatory and legislative issues that impact the wastewater community, including those related to biosolids and biosolids management.

37. **Weighmaster:** Certification given by the California Division of Measurement Standards for the District to operate a truck scale at the MWWTP.

### **Common Abbreviations**

1. ADC – Alternative Daily Cover
2. BACWA – Bay Area Clean Water Agencies
3. BMP – Biosolids Management Program
4. BOD – Biological Oxygen Demand
5. CAPA – Corrective Action and Preventative Action
6. CASA – California Association of Sanitation Agencies
7. CCP – Critical Control Points
8. CHP – California Highway Patrol
9. DCS – Distributed Control System
10. DQO – Data Quality Objectives
11. EBMUD – East Bay Municipal Utility District
12. EMS – Environmental Management System
13. EPA – Environmental Protection Agency
14. ESD – Environmental Services Division
15. FYI – For Your Information
16. FOG – Fats, Oils and Grease
17. GBT – Gravity Belt Thickener
18. GST – Gravity Sludge Thickeners
19. IDS – Industrial Dischargers Section
20. IPS – Influent Pump Station
21. IU – Industrial User
22. LIMS – Laboratory Information Management System
23. LSD – Laboratory Services Division
24. MCRT – Mean Cell Residence Time
25. MDW – Monthly Data Worksheets
26. MLSS – Mixed Liquor Suspended Solids
27. MWWTP – Main Wastewater Treatment Plant
28. NAB – New Administration Building
29. NACWA – National Association of Clean Water Agencies
30. NANI – Notice and Necessary Information

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- 31. NMGP – National Manual of Good Practice
- 32. NPDES – National Pollutant Discharge Elimination System
- 33. O & M – Operation and Maintenance
- 34. OC – Operational Controls
- 35. OSHA – Occupational Safety & Health Administration
- 36. PCM – Process Control Memo
- 37. POTW – Publicly Owned Treatment Works
- 38. R2 – Resource Recovery
- 39. RAS – Return Activated Sludge
- 40. RCO – Regulatory Compliance Officer
- 41. SOP – Standard Operating Procedure
- 42. SRT – Solids/Sludge Retention Time
- 43. TSS – Total Suspended Solids
- 44. WAS – Waste Activated Solids
- 45. WCI – Wastewater Control Inspectors
- 46. WCR – Wastewater Control Representatives
- 47. WED – Wastewater Engineering Division
- 48. WEF – Water Environment Federation
- 49. WTD – Wastewater Treatment Division
- 50. WW – Wastewater