



A Public Agency

# SHOREWAY OPERATIONS AND CONTRACT MANAGEMENT

## STAFF REPORT

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To: SBWMA Board Members  
From: Joe La Mariana, Executive Director  
Hilary Gans, Senior Facility and Contract Manager  
Julia Au, Recycling Outreach Programs Manager  
Date: January 25, 2018 Board of Directors Meeting  
Subject: Residential and Multi-Family Battery Handling, Collection and Communication Work Plan

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### Recommendation

It is recommended that the SBWMA Board of Directors approve Resolution No. 2018-07 attached hereto authorizing the following actions:

1. Reduce/eliminate the presence of lithium ion batteries in the recycling stream at the Shoreway MRF.
2. Approve the plan total of \$430,760, which includes \$116,000 of funding already included in the FY17-18 Budget.
3. Approve the expenditure of the unbudgeted difference (\$314,760) necessary to implement this recommended plan from the FY17-18 Budget, Line 42, titled *Collection RFP Contract Support* to fund this unanticipated program to achieve no negative variance to the FY17-18 Budget. This line item currently has \$450,000 budgeted.

### Summary

Following the fire on September 7, 2016, efforts began to reduce or eliminate the presence of batteries in the recycling stream at the Shoreway MRF. This Staff Report recommends an Action Plan to accomplish that goal. The plan consists of three components:

- 1) **Hardening of the facility, fire suppression and staff training**
  - Prevent fires that do occur at the Shoreway facilities from causing damage to the buildings and equipment.
- 2) **New handling, collection, and communication work plan**
  - Prevent businesses and residents from putting batteries in the recycling and waste carts
  - Prevent batteries from entering the MRF and transfer station.
- 3) **Long term Extended Producer Responsibility (EPR) and local ordinance measures**

### Analysis

Staff has identified six core action item sub-categories within the aforementioned three identified categories. Action items are summarized in Table 1 (on the next page).

Table 1. Battery Fire Solution Areas, Recommended Stakeholders and Action Steps	
<i>1. Hardening of the Facility, Fire Suppression and Staff Training</i>	
Stakeholder	SBWMA Action Steps
a. SBR/Shoreway	Enhance Shoreway fire suppression and employee training to prevent battery fires from damaging the MRF and transfer station.
<i>2. New Battery Handling, Collection, and Communication Work Plan</i>	
b. Recology	Coordinated outreach and enforcement to ensure that battery collection is performed according to the battery collection program guidelines.
c. Residents & Businesses	Engage residents and businesses in the redesign and pilot of a new curbside battery collection program that eliminates batteries inside the Blue Bin.
<i>3. Long Term Extended Producer Responsibility (EPR) and Local Ordinance Measures</i>	
a. Battery Industry	Work with lithium-ion battery manufacturer to: 1) procure battery program grant funds to cover Agency handling costs, 2) make batteries safe to handle in MRFs and "self-identifying" through RFID chips when discarded into solid waste collection and processing systems.
b. Local Gov's.	Collaborate and build a coalition with other Bay Area governments to build support for local battery ordinances and extended producer responsibility (EPR) regulations.
c. State Gov.	Support California Product Stewardship Council and others in expanding EPR to include batteries and have costs and risks assigned to battery manufacturers.

### 1. Hardening of the Facility, Fire Suppression and Staff Training

Staff has worked collaboratively with SBR and industry experts to identify and implement best practices related to enhancing Shoreway's operational and facility fire safety and suppression capabilities. This multi-year continuous effort has been cataloged in a report titled "Shoreway Fire Hazard Mitigation Plan." This plan was originally provided to the Board in 2014 and as the report has been updated, (most recently in 2017) it has been provided to the Board. A summary of the enhancements include:

#### Shoreway Environmental Center: Facility Enhancements - Operational:

- Development of **Fire Hazard Mitigation Plan** (addition to SBR's Emergency Response Plan).
- **Sorter training** on lithium-ion battery hazard and response.
- Enhance **all-employee fire safety training** depth and frequency.
- **Discontinue second-shift** MRF processing.
- Policy to **minimize material storage "fuel"** at MRF and Transfer Station.
- Policy of **daily clearing of all materials** from MRF sort system at end of shift.
- **Rigorous housekeeping** program implemented.
- **24/7 onsite coverage** - security service patrol on weekends and off-hours.
- **PENDING: Consideration of onsite firefighting service support off-hours.**
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#### Shoreway Environmental Center Facility Enhancements – Structural:

- **Building Fire Suppression System** – advanced water and foam overhead sprinkler system for MRF and Transfer Station.
- **Multiple Fire Expert review** of fire systems and recommendations
- **Structural Enhancements:**

- 30 new handheld fire extinguishers added to supplement minimum required by Building Code.
- 10 water-drops with hose reels added around MRF and Transfer Station for location-based firefighting.
- Five F-500 Carts added to the MRF and TS tip floor for location based firefighting.
- F-500 Fire Suppression Agent added to fire extinguishers.
- Building sprinkler system extended into areas of MRF Equipment where materials are stored (e.g., paper bunkers, plastic bunkers).
- Building sprinkler system extended into MRF screens (where fire occurred).
- PENDING: Consideration of Remote Fire monitoring system (Fire Rover-type system)

## 2. Battery Handling, Collection, and Communication Action Plan

### 2A. Battery Handling and Collection Procedures

Battery handling and collection procedures will be modified to ensure reduction or even elimination of lithium-ion batteries at Shoreway. Recommended modifications are in the following areas:

- Battery bag modifications
- RFID scanning procedures
- Battery bag distribution
- Battery drop-off location expansion
- Multi-family (MFD) dwelling battery bucket expansion and outreach

#### 2A.1 Battery Bag Modifications *(Est. Cost: \$80,000)*

The current curbside battery collection procedure allows residents to place batteries in any household zip lock bag on top of their recycling cart. A major modification of residential requirements will provide residents with 8"x10", 4 millimeters thick, high visibility, translucent plastic zip lock bags equipped with RFID tags. Bags will be easily visible due to the orange color and the translucency will allow Recology drivers to easily identify the contents of the bag. Bilingual artwork on the bag will be clearly visible and consist of easily understood guidelines for the use of the bag. Graphic 1 (below) shows a bag similar to the yet to be purchased SBWMA bag.

Graphic 1: *Sample High-Visibility, Translucent Battery Bag*



High Visibility  
Orange/Translucent  
Zip Lock  
Plastic Battery Bags (4 mil)

### 2A.2 RFID Scanning Procedures (Est. Cost: \$80,500)

Scanning of RFID tags will help with the identification of battery bags inside blue recycling carts at the point of collection. Scanners will be placed on the lift arm of the residential side loading trucks. Drivers would be alerted to RFID bags inside the cart at the point of collection. Carts would not be serviced, but a tag would be left informing residents of the problem. Recology has 73 residential automated side loading vehicles and 24 residential side loading recycling routes. Initial installation would be on the 24 vehicles normally assigned to residential recycling routes.

**Graphic 2: Residential Recycling Automated Side Loader Arm**



RFID Scanner to be Installed on Lift Arm of Residential Recycling Automated Side Loader (24 trucks)

### 2A.3 Battery Bag Distribution

The purpose of the high visibility RFID bag for battery collection is to allow SBWMA, SBR, and Recology to intercept improperly placed battery bags before cycling through the Shoreway MRF. Having initial distribution and replenishment procedures in place is critical so the program will continue beyond the kickoff date. See Attachment A: *Battery Bag Distribution Matrix*, for ongoing distribution and replenishment opportunities of battery bags for SBWMA residents.

### 2A.4 Battery Drop-off Location Expansion

Batteries dropped off at collection points throughout the SBWMA service area, by definition, will not end up in the MRF. There are currently 21 battery drop-off locations in the SBWMA service area. These include seven Call2Recycle locations as well as County and independently sponsored drop-off locations. Working collaboratively with Call2Recycle and member agencies, the goal of drop-off location expansion is to double the number of locations in 2018. Attachment B shows *Map 1, locations of the 21 drop-off locations*, and *Map 2, potential expansion drop-off locations*, including independent and corporate retail businesses in the SBWMA service area.

### 2A.5 Multi-Family Dwellings (MFD) Battery Bucket Expansion and Outreach

The current MFD battery recycling program is in place at 93 out of approximately 3,000 locations in the SBWMA service area. Over 100 three-gallon buckets have been placed at these locations. Recology's role in this process includes purchasing, inventorying, prepping and distributing the buckets. Recology staff swaps out the full containers for an empty one upon property manager request. Changes to this program include the goal of doubling the number of participating locations and enhancing outreach efforts in 2018. Staff intends to produce new multi-lingual signage that would be displayed on the lid of the buckets, and send literature about the program to property managers. Additionally, the Rethinker

newsletter educating residents about proper battery disposal (to be used as a bill insert for residential accounts) will also be mailed directly to MFD residents who do not receive a bill.

**Graphic 3: Multi-Family (MFD) Battery Bucket**



Target many more new locations

New signage to be placed on top for greater visibility

### ***2B Communicating Safe Procedures***

Communicating safe procedures for handling lithium-ion batteries is essential to the success of a plan to reduce or eliminate the incidence of lithium-ion batteries in the recycling stream. Target audiences for a multi-lingual public education plan include single-family and multi-family residences. Components of the recommended public education plan, along with cost and timeframe, are listed below in Table 2. Discussion of each follows.

### **Recommended Battery Public Education Plan Components**

#### 2B.1 Program launch direct mail, including letter with RFID bags, and magnet (Est. Cost: \$88,000)

SBWMA will send a letter to all households (approximately 92,000) explaining the curbside battery recycling procedure, emphasizing any changes in the program, and lithium-ion battery hazards. Two RFID bags provided to residents and businesses for curbside battery recycling will accompany the letter. Also included will be a magnet reminding residents to recycle batteries, including a phone number and website for information.

#### 2B.2 Newspaper insert (Est. Cost: \$18,000)

An eight-page full-color newspaper insert is being developed by N+R Publishing to bring journalistic attention to the issue of lithium-ion battery fires. SBWMA will be able to purchase reprints for its public education campaign for insertion in the San Mateo Daily Journal. Many extras will be available to distribute at all Member Agency venues, community, and temporary events.

#### 2B.3 Website update

A new webpage will be developed outlining battery recycling program guidelines to emphasize safe handling of all batteries with special emphasis on the fire danger of improperly handled lithium-ion

batteries. The page will also feature all battery recycling options, including the San Mateo County HHW facility, Call2Recycle locations, and all other battery recycling locations in the SBWMA area. A battery recycling link will also be easily visible on the home page of the SBWMA website.

2B.4 Advertising (Est. Cost: \$15,000)

SBWMA will promote the upcoming changes to the curbside battery program in addition to safe and proper disposal of batteries via advertisements in local newsletters.

2B.5 Rethinker newsletter (Est. Cost: \$8,000)

SBWMA will use the Rethinker newsletter to provide information about upcoming changes to the curbside battery recycling program. The newsletter will be sent via a bill insert to residential bills payers, and direct mail to multi-family residents.

2B.6 Social media postings (Est. Cost: \$100)

SBWMA will post and boost awareness of upcoming changes to the curbside battery recycling program and the importance of battery recycling. SBWMA will also work with Member Agencies and contractor's and their social media and networking accounts including, but not limited to Facebook, Twitter, and Nextdoor, to include important battery handling information. .

2B.7 Member Agency outreach

SBWMA will work with Member Agencies to promote the safe handling and disposal of household batteries using messages printed directly onto bills, city newsletters, and other local methods of dissemination. There is no cost associated.

2B.8 Brochures and other outreach pieces (Est. Cost: \$1,000)

Brochures containing information about battery recycling will be updated to include new procedures and emphasize lithium-ion battery dangers.

2B.9 Pub Ed Safe Handling/Proper Disposal Tips video (Est. Cost: \$5,000)

A short (30 second) video will be produced for use as a public service announcement, public access channel, social media posting, and as a tool for presentations to educate residents about properly disposing of unwanted household batteries.

2B.10 Recology truck signage (Est. Cost: \$12,000)

Frames and signs promoting proper handling of batteries will be purchased for installation on Recology residential recycling trucks. There are 24 residential recycling routes. Frames and signs will be placed on 12 of these trucks.

2B.11 Multi-Family Dwellings: Program Expansion and Outreach (Est. Cost: \$34,000)

SBWMA and Recology will work to expand the number of MFD battery buckets in the SBWMA service area and provide direct outreach on safe battery handling.

## **Communication Action Plan Timeline**

The timeline for the project is divided by Pre-Launch and Launch timeframes. Launch of the program will coincide with the mass mailing to approximately 92,000 single-family residences, currently scheduled for April 2018. Rollout of the program will run from April through September, with some outreach and expansion efforts continuing open-ended after that. See Attachment C, *Communication Action Plan Timeline*, for proposal timeline.

Proposed Budget

Table 2 Proposed Battery Collection & Communications Work Plan Budget		
	ITEM	COSTS
2A.1	<b>RFID bags</b>	\$80,000
	*250,000 bags (\$15,000)	
	*250,000 RFID tags (\$50,000)	
	*Adhering RFID tags (\$15,000)	
2A.2	<b>RFID scanning procedures</b>	\$80,500
	*RFID scanner (mounted on 24 trucks/use at MRF) (\$80,000)	
	*Driver tags (on carts for program non-compliance) (\$500)	
2B.1	<b>Direct mail (to 92,000 single-family residents accounts)</b>	\$88,000
	*Printing/kit assembly (\$35,000)	
	*Postage to 92,000 HH (\$45,000)	
	*Fridge magnet - 100,000 units (\$8,000)	
2B.2	<b>Newspaper insert (50,000 printed)</b>	\$18,000
	*Design/Writing/Printing (\$16,000)	
	*Insertion Cost— (Daily Journal SBWMA zones) (\$2,000)	
2B.4	<b>Advertising</b>	\$15,000
2B.5	<b>Rethinker Newsletter (SFR bill insert)</b>	\$8,000
2B.6	<b>Social media postings</b>	\$100
2B.8	<b>Brochures and other outreach pieces</b>	\$1,000
2B.9	<b>Safe Handling/Proper Disposal Tips video</b>	\$5,000
2B.10	<b>Recology truck signage: 24 Signs (3' x 5')</b>	\$12,000
2B.11	<b>Multi-Family Dwellings: Program Expansion and Outreach</b>	\$34,000
	*Bucket sticker (\$1,000)	
	*Rethinker direct mail to MFDs (\$33,000)	
	<b>Community-based social marketing (CBSM)</b> to affect long term behavioral change *Placeholder number/anticipating RFQ w/Pub Ed/Outreach Committee engagement	\$50,000*
	<b>SUBTOTAL:</b>	<b>\$391,600</b>
	<b>Contingency (10%):</b>	<b>\$39,160</b>
	<b>Proposed Budget-GRAND TOTAL:</b>	<b>\$430,760*</b>
	<b>Current Budgeted Amount (FY17-18):</b>	<b>&lt;\$116,000&gt;</b>
	<b>Net Cost of Recommended Battery Plan:</b>	<b>\$314,760</b>

3. Long term Extended Producer Responsibility (EPR) and local ordinance measures.

At Board direction, Staff is actively pursuing numerous strategic partnerships and long-term measures to create a solid waste industry-wide, environmentally responsible approach to handling lithium batteries at their end-of-life. The end goal is to use an Extended Producer Responsibility (EPR) approach to create a sustainable, self-funding model to identify, separate, process, and dispose of these materials with the collaboration of the battery



manufacturing industry. This strategy is in alignment with SBWMA policy and is critical alliance with Agency goals to protect worker safety and protect Agency assets. Many of these alliances are outlined in Table 3 (below).

<b>Table 3</b>			
<b>Long Term EPR and Ordinance Initiatives and Partnerships: Local and State Governments</b>			
	<b>Organization</b>	<b>Action Item</b>	<b>Comments</b>
1.	San Mateo County Office of Sustainability	Develop Lithium Battery Ordinance	Concept discussion has occurred in December
2.	San Mateo County Household Hazardous Waste	To be confirmed	Awaiting program and financial commitments
3.	San Mateo County Legislative Director	Lithium-ion Battery briefing.	12/21/17 Requires SBWMA's SMC support
4.	California Product Stewardship Council (CPSC)	*CPSC Board incorporated Lithium-Ion Battery EPR in 2018 Workplan.  *SBWMA/CPSC Co-Hosted a Lithium-ion Battery Summit w/ 22 industry leaders to discuss EPR issues, strategies, and public education messaging.	12/20/17
5.	Solid Waste Association of North America (SWANA)	* <u>California Legislative Task Force:</u> *Lithium-Ion Battery EPR was added to LTF's 2018 Legislative Platform *Lithium-Ion Battery Fire Presentation-- *Statewide/Nat.advocacy opportunities	12/1/17 Strong support; Legislative Advocate ready to act

### **Background**

Following the September 7, 2016 Shoreway MRF fire, Staff determined that lithium-ion batteries were the likely cause. On October 26, 2017, Staff and the TAC discussed possible solutions and discovered that: 1) lithium-ion batteries are inherently unstable and likely to ignite into fire if damaged, 2) they are currently arriving in the single stream recycling at a rate of five-per hour, 3) they have caused fire incidents on a regular basis since 2013, and 4) the danger presented by these batteries is predicted to significantly increase over time due to ever-growing demand for mobile and portable devices. It is critical to minimize or eliminate the causes of fires as the MRF and Transfer Station for the long term successful operation of the facility.

### **Fiscal Impact**

Total estimated cost for implementation of the Residential and Multi-Family Battery Handling, Collection and Communication Work Plan is \$430,760. Of this total, \$116,000, or 27%, is already included in the adopted FY17-18 budget. If the plan is approved in its entirety, Staff recommends that the remaining unbudgeted total (\$314,760) be funded by redirecting this amount from FY17-18 adopted budget, line 42 titled "*Collection RFP Consulting Support*," which does not appear to be needed for this intended use. By using this strategy, there will be no negative variance to the FY17-18 budget. This is a unique, one-time opportunity.

### **Attachments:**

Resolution 2018-07

Attachment A – Battery Bag Distribution Matrix

Attachment B – Current and Potential Battery Drop-off Locations

Attachment C – Communication Action Plan Timeline



**RESOLUTION NO. 2018-07**  
**RESOLUTION OF THE SOUTH BAYSIDE WASTE**  
**MANAGEMENT AUTHORITY BOARD OF DIRECTORS**

**WHEREAS**, the SBWMA is responsible for the operation of the Shoreway Environmental Center for the benefit of member agencies.

**WHEREAS**, there exists a growing threat of fire due to the increasing presence of lithium-ion batteries in the recycling stream.

**WHEREAS**, another similar-scale fire like the one that occurred on September 7, 2016 would seriously hinder SBWMA's ability to obtain insurance, and, therefore, could potentially halt recycling operations in the facility. Should this situation occur, significant rate payer financial assets would be stranded and overall recycling activities would be at-risk.

**WHEREAS**, if recycling activities ceased at the Shoreway site, significantly higher costs would be passed through to SBWMA rate payers to transport these materials to alternative sites for processing which could also put the Agency program at risk for non-compliance of state mandates,

**NOW, THEREFORE BE IT RESOLVED** that the South Bayside Waste Management Authority hereby approves the Executive Director's recommendation of the Residential and Multifamily Battery Handling, Collection and Communication Work Plan at the Not-To-Exceed amount of \$430,760.

**PASSED AND ADOPTED** by the Board of Directors of the South Bayside Waste Management Authority, County of San Mateo, State of California on the 25<sup>th</sup> day of January, 2018, by the following vote:

Agency	Yes	No	Abstain	Absent	Agency	Yes	No	Abstain	Absent
Atherton					Menlo Park				
Belmont					Redwood City				
Burlingame					San Carlos				
East Palo Alto					San Mateo				
Foster City					County of San Mateo				
Hillsborough					West Bay Sanitary Dist				

I HEREBY CERTIFY that the foregoing Resolution No. 2018-07 was duly and regularly adopted at a regular meeting of the South Bayside Waste Management Authority on January 25, 2018.

ATTEST:

\_\_\_\_\_  
 Bob Grassilli, Chairperson of SBWMA

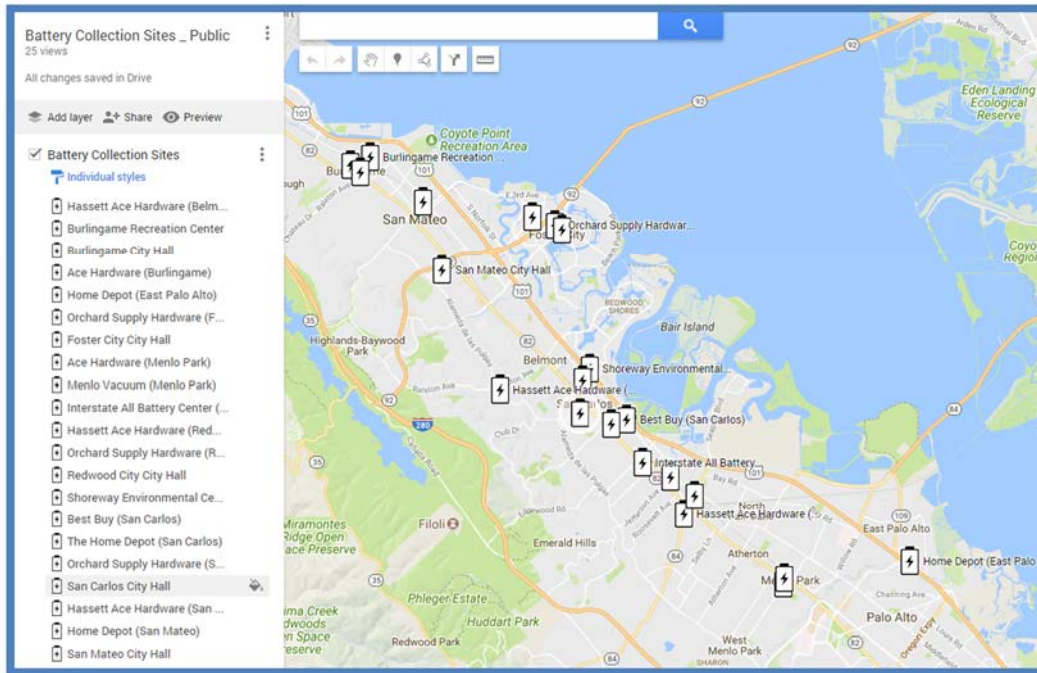
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 Cyndi Urman, Board Secretary

Attachment A

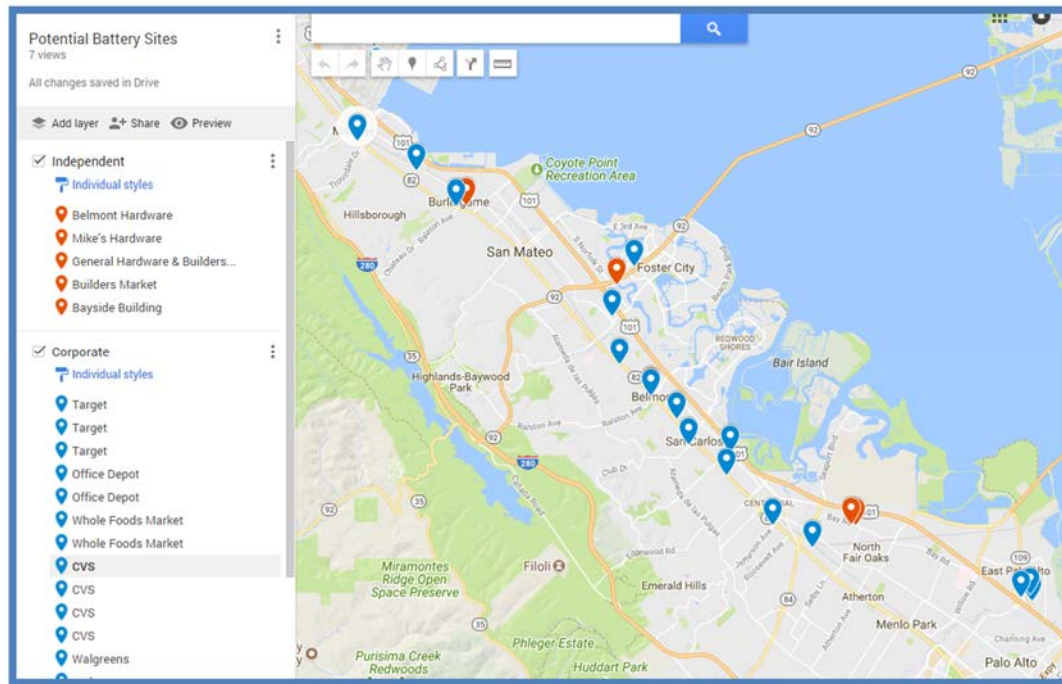
BATTERY BAG DISTRIBUTION MATRIX			
#	<i>RESIDENT ACTION</i>	<i>RESPONDING PARTY</i>	<i>ACTION ITEM</i>
<i>Program Launch: Initial Mailing</i>			
1.	No Action required	SBWMA	<b>Program launch kit includes:</b> letter, 2 battery bags and fridge magnet.
<i>Replenishment Method</i>			
2.	Call Recology Customer Service Center for replacement bags	Recology Customer Service Rep	Replacement bags are mailed out.
3.	Drop off full battery bag at Shoreway Environmental Center	Shoreway site staff	Replacement bags are handled out.
4.	Bring full battery bag to San Mateo County's HHW Collection Facility @ Tower Road	San Mateo County's HHW staff	a. Confirm that resident is in SBWMA area and accept full bags. b. If so, provide distribute bags.
5.	Attend any one of the 10 San Mateo County-hosted temporary HHW drop-off events in SBWMA Service Area	San Mateo County HHW staff	Distribute upon request.
6.	Attend any one of the 17 Member Agency-hosted E-waste/shred events (SBWMA staff coordinated)	Member agencies	Distribute upon request.
7.	*Attend SBWMA Earth Day Event *Attend SBWMA America Recycles Day event	SBWMA staff	Distribute upon request.
8.	Attend numerous SBWMA service area community events	Recology staff	Distribute upon request.

# Attachment B

## Map 1. Current battery drop-off locations



## Map 2. Potential expansion battery drop-off locations



Attachment C

Communication Action Plan Timeline

LITHIUM ION BATTERY PROJECT TIMELINE (2018)									
TASK/DATE	January	February	March	April	May	June	July	August	September
<b>PRE-LAUNCH</b>									
<b>Materials</b>									
*Battery bags/RFID									
**RFID production									
**Bag production									
**Adhere RFID tags to bags									
*Facility distribution									
<b>Communication Plan</b>									
*Develop outreach messaging									
*Train affected internal parties									
**Recology									
**SBR									
**San Mateo County HHW facility									
**Member agencies									
<b>LAUNCH</b>									
*Direct mail (letter, bags, magnet)									
*Newspaper insert									
*Website update									
*Advertising									
*Rethinker newsletter									
*Social media postings									>>>>
*Member agency outreach									>>>>
*Video									
*Truck signage									
*MFD program expansion/outreach									>>>>

## STAFF REPORT

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To: SBWMA Board Members  
From: Hilary Gans, Senior Contracts and Operations Manager  
Date: January 25, 2018 Board of Directors Meeting  
Subject: Shoreway Operations Update

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### Recommendation

This staff report is for informational and discussion purposes only and no formal action is required by the Board of Directors.

#### 1. Food Waste to Energy Pilot with EBMUD

At the November meeting the SBWMA Board approved an MOU to advance a Food Waste to Energy project with East Bay Municipal Utility District (EBMUD). Located in Oakland, EBMUD operates one of the largest waste water treatment plants in the Bay Area. Over the past 5+ years, EBMUD has been receiving food waste from solid waste haulers/municipalities and generating power from the anaerobic digestion process. Currently EBMUD is seeking \$1.2M in grant funding from CalRecycle and is looking to the SBWMA as a supply-partner for food waste. The CalRecycle grant funds are being directed to EBMUD specifically for a food waste to energy project and EBMUD is looking to the SBWMA as the sole provider of the food waste for the pilot project. The timetable of the Cal Recycle grant has accelerated the pilot project discussion require both parties to commit to the project early in 2018.

SBWMA Board members are familiar with staff's research into sorting SBWMA garbage to extract food waste for transportation to a waste water treatment plant for anaerobic digestion and this potential pilot project with EBMUD is a "half-step" towards implementing this larger project. The feedstock for the pilot would primarily consist of redirecting commercial food waste that is currently being composted to EBMUD, who for their part, will digest the food waste into energy. A financial proforma is currently being developed and will be brought to the Board in February along with a detailed project description for their consideration. Current estimates are that the cost of the pilot would be comparable to the agency's current cost of composting and the capex will be \$1.5-\$2M and no building modifications are required. The value of the pilot project to the SBWMA is that it will:

- 1) Give the SBWMA and EBMUD (as well as other waste water treatment plants that the SBWMA as an MOU with) an opportunity to build a food waste to energy supply relationship.
- 2) Analyze and test the proforma for a full-scale waste sorting and anaerobic digestion system.
- 3) Provide an opportunity to test-drive processing equipment and develop material quality specifications.
- 4) Build a track record of success that will support future grant requests to CalRecycle to fund a full-scale waste sorting system.

Currently SBWMA staff is working to:

- 1) Refine the pilot project cost proforma and capital costs.
- 2) Develop materials specification for materials shipped from SBWMA to EBMUD.

- 3) Develop and define a core-terms sheet that will serve as the basis for a supply agreement between SBWMA and EBMUD.
- 4) Receive an equipment proposals for the pilot project that will be needed remove contamination from commercial food waste and produce an organic slurry.
- 5) Negotiate grant terms and conditions with CalRecycle.

## **2. Fire Restoration Cost Recovery**

The SBWMA expense for the 2016 Shoreway fires is currently at zero balance and all expense have been fully reimbursed by Hanover for costs incurred by the SBMWA in the MRF and transfer station restoration efforts. The MRF restoration project is complete and the transfer station is undergoing one small final project before closure can be reached with Hanover Insurance.

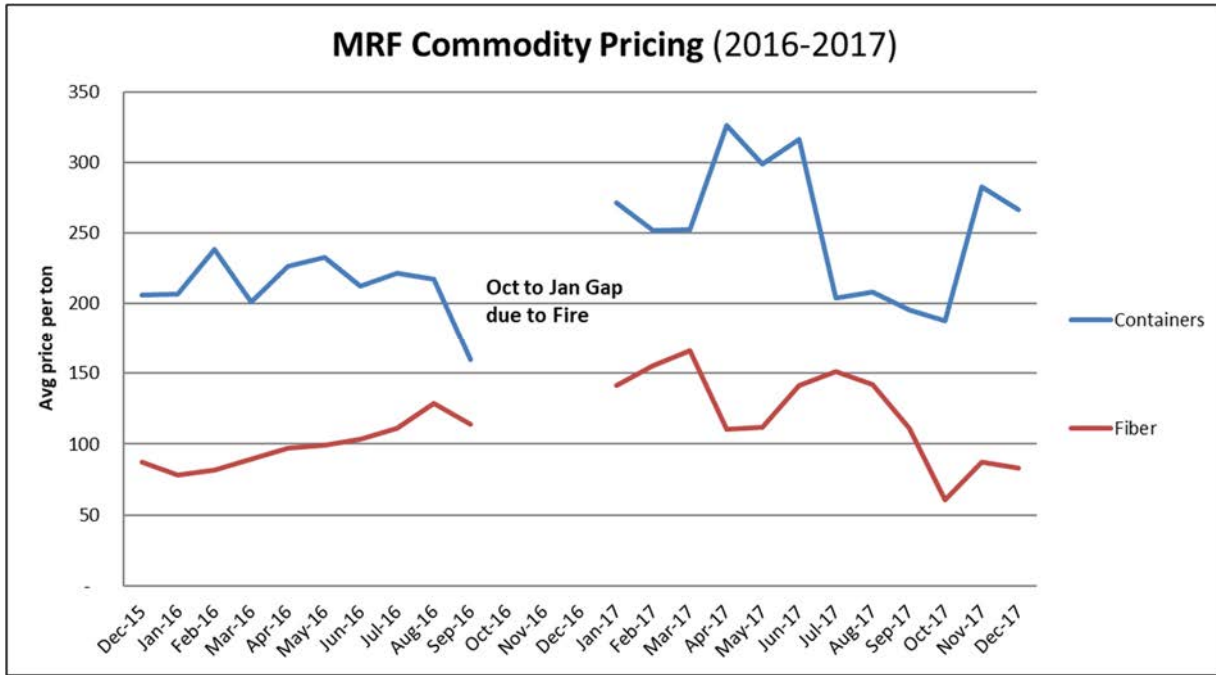
## **3. Update on Commodity Markets and Pricing**

While marketing challenges with recycled materials exported to China are not new, the Chinese government is strongly signaling that "this time is different". One outcome of the October 2017 People's Congress meeting is that environmental issues are going to be a top priority for the Chinese government in 2018 and that the "importation of waste" will not be allowed. While the commodities produced by the Shoreway MRF are not "waste", the standards for commodities imported by China are tightening and there is an increased risk of rejection for all US recyclers. In the case of mixed paper, this risk is a particularly acute because of the large volume of this commodity exported, because China is the primary consumer for this commodity worldwide and, because of the stringent quality-standards being enforced by China (1% contamination and 2% brown paper).

The "market-risk" of SBWMA mixed paper loads being rejected is costly and can be as high as \$500,000 (exported paper is sold into China in groupings of ~20 containers and if a load is rejected, customs will typically reject all containers in the grouping). Due to the high cost of rejections, SBR and SBMWA staff are taking a precautionary step of hiring additional sorters to clean paper shipped to Chinese to try to meet the quality standards. SBR has keep the SBWMA staff informed about the change in market conditions and the need to improved mixed paper quality and there has been a cooperative effort address the problem. Unfortunately, the current BHS system does not allow SBR to meet China's quality-standard. SBR and SBWMA are analyzing the following options and will be bringing recommendations back to the Board for consideration. Current steps being taken to maintain exports to China include the following:

- 1) Close monitoring of fiber quality manufactured by the Shoreway MRF.
- 2) Exploring alternative paper markets in addition to China.
- 3) Monitoring standards and rejections of commodities by China.
- 4) Tuning-up the performance of the existing sort line to sort for maximum effectiveness.
- 5) Evaluate the need for additional and ongoing sort labor.
- 6) Additional MRF sorting equipment is being considered.

Fiber commodity sales price reached its lowest point in two years which is a direct result of the China's changes to the mixed paper market - - specifically, mixed paper sold by the SBWMA dropping from a 2017 high of \$121 in July to \$40 per ton in December. Mixed paper is the largest commodity sold from the Shoreway MRF so this dramatic decline in price is effecting the blended average revenue (see chart below for a two year tend on pricing for containers and fiber commodities).



Market Summary for ED Report -

China is the primary market for recycled commodities from the US. In the cause improving the environmental the Chinese government has signaled a tightening of quality standards for the importation of commodities – particularly in the case of mixed paper. While the implementation of China’s new customs policies is yet to clarified, SBR and SBWMA staff are being proactively addressing the quality of commodities exported from the MRF to mitigate the risk of potential and costly export rejections. Towards this goal, a combination of sorting equipment enhancements and increase sort labor are being evaluated.

EBMUD Summary for ED Report -

Staff met with East Bay Municipal Utility District (EBMUD) on January 11<sup>th</sup> to discuss the potential for a pilot project where SBWMA would process commercial food waste into an organic slurry and EBMUD would digest this food waste slurry into energy using their waste water anaerobic digesters. This potential pilot is a candidate for partial grant funding from CalRecycle (\$1.2M) and could serve as a crucial stepping-stone towards the development of a full-scale system to sort food waste from the SBMWA’s garbage for conversion to green energy. More information is provided in staff report 7C and will be brought to the Board for consideration at the February BOD.