PLANNING FOR THE COUNTY'S WASTE MANAGEMENT CHALLENGES

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ISSUE

Should the County of San Mateo revise its Countywide Integrated Waste Management Plan to address new waste reduction and management challenges?

SUMMARY

San Mateo County and all the cities within the county face significant challenges in managing their solid wastes. An immediate problem is a decline in international markets for recyclables collected by curbside programs. These recyclables are typically contaminated by the mixing of paper, glass, metals, plastics and food particles. International markets have raised their standards to reduce contamination. Recycling programs in this county and elsewhere find it hard to meet these new standards. As a result, some recyclables collected in this county are now being landfilled instead. Further, selling recyclables in those remaining markets that still accept high levels of contamination has created a glut, leading to a decline in prices buyers are willing to pay for the materials. This has led to large revenue losses for local recycling programs.

A second challenge is to meet a statewide goal to reduce the tonnage of organic waste that is landfilled by 75 percent by the year 2025. Anaerobic decomposition of organics in landfills generates emissions of methane, a potent greenhouse gas. The intent of the new target is to reduce these emissions. Organics make up about 71 percent of all waste landfilled by this county and reducing this will require major new or expanded organics diversion programs and facilities.

A third longer-term challenge is dwindling capacity at the only active landfill in the county, the privately-owned Ox Mountain facility near Half Moon Bay. Between 2012 and 2018, annual waste disposal at Ox Mountain increased by 20 percent and, at the current rate of fill, the landfill will reach capacity in the year 2034. A new or expanded landfill could easily take 10 to 15 years to secure required approvals and permits.

To ensure that decisions are "guided by an effective planning process," state law requires each county to have a Countywide Integrated Waste Management Plan (CIWMP). The San Mateo County CIWMP, adopted in 1999, provides no guidance on how to meet the new challenges above. Also, its list of programs and facilities is out-of-date. The main goal of the 1999 plan, to achieve a 50 percent waste diversion rate, is met. But more ambitious goals, subsequently set by the state and by local jurisdictions, are not mentioned. Other concerns not mentioned include impacts of local practices on the wider environment, such as global warming created by landfill gas emissions, the consequences of less stringent environmental and worker protection practices in other nations that process our recyclables, and environmental justice, as it pertains to waste management decision-making. Since 2015, the County Office of Sustainability has been responsible for the San Mateo County CIWMP. In order to provide effective guidance to the public and decision makers in this county, the Grand Jury recommends that the Office of Sustainability revise the CIWMP.

GLOSSARY[1]

Composting: the biological decomposition of organic materials such as leaves, grass clippings, brush and food waste into a soil amendment. Composting is a form of recycling.

Diversion: any action that keeps waste from being buried at a landfill through either recycling, reuse, biomass conversion, or source reduction.

Edible Food: food intended for human consumption that is fit to be consumed, consistent with the food safety requirements of the California Retail Food Code.

Green Waste: landscape waste generally consisting of leaves, grass clippings, weeds, yard trimmings, wood waste, branches and stumps.

In-vessel Digestion: the process of biologically decomposing organic matter with little or no oxygen in a fully enclosed structure to produce biogas, liquid fertilizer and compost.

Organics: includes food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, paper products, printing and writing paper, manure, biosolids, digestrate (residue from the in-vessel digestion process), and sludges.

Recycle: the process of collecting, sorting, cleansing, treating and reconstituting materials and returning them to the economic mainstream in the form of raw materials for new products. Recycling is a type of waste diversion.

Reduce (Source Reduction): any action which eliminates or reduces the amount of materials before they enter the municipal solid waste stream. Reduction is a type of waste diversion.

Reuse: re-application of a product without significantly altering the original product. Reuse is a type of waste diversion.

Solid Waste: refers to garbage, refuse, green waste, sludges and other discarded solid materials resulting from residential activities and industrial, agricultural and commercial operations. It excludes hazardous waste, radioactive waste, and medical waste. Municipal Solid Waste (MSW) normally excludes industrial process wastes and agricultural wastes.

Waste Disposal: burial of solid waste at a landfill.

Waste Generation: the total amount of solid waste produced in a jurisdiction. The basic formula is the amount of waste disposed plus the amount of waste diverted equals generation**.**

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[1] Terms defined herein are based on CalRecycle "Glossary of Terms" https://www.calrecycle.ca.gov/lgcentral/glossary ; CalRecycle, "Glossary of Waste Prevention Terms" https://www.calrecycle.ca.gov/reducewaste/define#SolidW ; CalRecycle, "Short-lived Climate Pollutants (SLCP): Organic Waste Reductions, Proposed Regulation Text, Second Formal Draft" June 17, 2019, Section 18992 "Definitions." https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/proptextjune2019.pdf and CalRecycle "Glossary" at https://www.calrecycle.ca.gov/organics/glossary

BACKGROUND

In the summer of 2018, the Grand Jury's attention was drawn to challenges facing local waste management programs. Recognizing global environmental concerns, an article in the *San Francisco Chronicle* reported on San Francisco's call for other jurisdictions to join a "zero-waste initiative" to generate as little garbage "as physically possible."[2] Other articles warned that existing recycling programs face *backward* pressures, due to the loss of the huge Chinese market for collected recyclables.[3] The Grand Jury identified additional challenges: the need to develop programs to meet a tough new statewide goal to reduce landfilling of organic wastes, the need to address dwindling permitted landfill capacity in this county, and the emerging issues of environmental justice and the social and environmental impacts of less stringent waste management practices in foreign nations that process our recyclables.

CalRecycle is the primary state regulatory agency charged with waste management.[4] The state requires each county to have a Countywide Integrated Waste Management Plan (CIWMP)[5] in order that "decisions involving the establishment or expansion of solid waste facilities should be guided by an effective planning process."[6] The Grand Jury decided to investigate whether the current San Mateo County CIWMP, adopted in 1999, needs to be revised to address the new challenges noted above.

Countywide Integrated Waste Management Plans (CIWMPs)

A CIWMP is the only waste management planning tool that covers an entire county.[7] The plan has five components:

- A Summary Plan that identifies countywide goals, objectives, issues and problems, and summarizes the waste management infrastructure and programs of local jurisdictions. It considers the "coordination or consolidation" of programs at the countywide level.[8]
- A Siting Element that describes the types and quantities of waste disposed in landfills and remaining landfill capacity.

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[2] Kurtis Alexander, "S.F. invites world to join in zero-waste initiative," in *The San Francisco Chronicle*, August 28, 2018 https://www.sfchronicle.com/science/article/S-F-invites-world-to-join-in-zero-waste-13186649.php

[3] Lee, Wendy, "Trade War Hits Salvage Firms" in *The San Francisco Chronicle*, August 15, 2018. https://www.pressreader.com/usa/san-francisco-chronicle/20180815/281530816860431
Anna Schuessler "Where does it go? County waste facilities weather changing tides of recycling, garbage trends," *The Daily Journal*, September 13, 2018. https://www.smdailyjournal.com/news/local/where-does-it-go/article_ca096e96-b717-11e8-909a-5bd7c61b91ae.html

[4] CalRecycle, "Program Descriptions and Responsibilities." https://www.calrecycle.ca.gov/AboutUs/ProgramResp/

[5] California PRC § 41750. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=41750 . and 14 CCR §18757 – 18758.1. https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I8D132BAF8B70496EB020F0B04BC5FFAD&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default) ; CalRecycle, "Countywide Integrated Waste Management Plan Adequacy." https://www.calrecycle.ca.gov/lgcentral/library/policy/CIWMPEnforce/part1/ciwmpadq

[6] California PRC § 40900(b). https://codes.findlaw.com/ca/public-resources-code/prc-sect-40900.html

[7] Ibid.

[8] PRC § 18757.7(d). https://govt.westlaw.com/calregs/Document/I1D628FAE308745439247B2F8F24E3041?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

- A Non-Disposal Facility Element that identifies existing and proposed solid waste transfer stations, material recovery facilities and composting facilities.
- Source Reduction and Recycling Elements ("Electronic Annual Reports") adopted by each city and the County for unincorporated areas (not reviewed in this Grand Jury report).
- Household Hazardous Waste Elements adopted by each city and the County for unincorporated areas (not reviewed in this Grand Jury report).

The state also requires each transfer station, materials recovery and compost facility, and landfill to have a Solid Waste Facility Permit (SWFP) issued by the local enforcement agency.[9] In San Mateo County, the local enforcement agency is the Environmental Health Division of the County Health System. The SWFP must include a finding that the facility is consistent with the CIWMP.[10]

The CIWMP is important in guiding the waste management planning process, and waste management facilities must be identified in the CIWMP to secure a SWFP. However, providing waste management services remains a basic responsibility of each city (and the County for unincorporated areas). Each local jurisdiction must individually meet any applicable state requirements for providing solid waste management programs and meeting state goals.

Climate Action Plans (CAPs)

Since enactment of the California Global Warming Solutions Act of 2006 (AB 32),[11] many local jurisdictions have adopted Climate Action Plans (CAPs) to address greenhouse gas emissions. Due to landfill emissions of methane, a potent greenhouse gas, many CAPs include a section that sets solid waste diversion goals. This is often the most recent statement of a local jurisdiction's goals pertaining to solid waste management. While not mandated by law, CAPs have been adopted by the County of San Mateo and 16 cities in the county.[12]

DISCUSSION

How are we doing?

Pursuant to AB 939 (1989), every jurisdiction must divert at least 50 percent of the solid waste generated by its residents and businesses.[13] In 1997, of 21 jurisdictions in San Mateo County, only one (Foster City) achieved that goal. Fifteen diverted less than 40 percent, of which eight diverted less than 30 percent.[14] By 2015, the most recent year for which CalRecycle has finalized

[9] California PRC § 44000.5-44018. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=44002 .
[10] CalRecycle, "Writing a Solid Waste Facility Permit." https://www.calrecycle.ca.gov/swfacilities/permitting/permittype/fullpermit/writepermit
[11] CA HSC §38500-38599 https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32
[12] As of April 1, 2019, the County of San Mateo and all cities in the county except for Half Moon Bay, Millbrae, Portola Valley and San Bruno have adopted Climate Action Plans. A link to all adopted CAPs is provided in the Bibliography.
[13] CalRecycle, "History of California Solid Waste Law," 1927-2019. https://www.calrecycle.ca.gov/laws
[14] County of San Mateo Public Works Department, "*Final Draft San Mateo County Integrated Waste Management Plan, Summary Plan and Siting Element*," January 8, 1999, pp. 3-27, 3-28 (copy provided by CalRecycle).

its review, all jurisdictions except Daly City met or exceeded the 50 percent target.[15] Daly City was also approved, based on a "good faith effort" to achieve the goal.[16] Thus, the waste diversion programs implemented in San Mateo County since the late nineties have been successful in satisfying AB 939 standards.

More waste diversion correlates with less waste disposal. Between 1999 and 2011, annual disposal by San Mateo County jurisdictions fell 41 percent, from 884,000 to 518,000 tons. However, by 2018 disposal rose back to 599,000 tons, an increase of about 16 percent in seven years (though still well below the 1999 level).[17] Private transfer station and landfill operators and government officials interviewed by the Grand Jury attribute this increase to population growth and economic expansion, not a decline in diversion.

The Current San Mateo Countywide Integrated Waste Management Plan (CIWMP)

The San Mateo County CIWMP was adopted by the County (SMC) and approved by CalRecycle in 1999.[18] As required by state law, the SMC Department of Public Works prepared Five Year Reviews of the plan in 2004, 2009 and 2014.[19] The SMC Office of Sustainability will prepare the next Five Year Review in 2019. Five Year Reviews assess the adequacy of the CIWMP and determine whether a CIWMP revision is merited.[20] The 2009 Five Year Review recommended revisions to the Non-Disposal Facility Element to update facility descriptions,[21] and those revisions were adopted in 2010.[22] The 2014 Five Year Review did not recommend revising the CIWMP.[23]

In preparing a CIWMP revision or a Five Year Review, state law requires the County to solicit input from a "Local Task Force" (LTF).[24] The LTF in this county is the City/County Association of Governments (C/CAG).[25] C/CAG comments are advisory only.[26] Since waste management is a responsibility of the cities as well as the County, the Office of Sustainability considers C/CAG

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[15] In 2008, CalRecycle changed its methodology for compliance reporting, replacing measurement of waste diversion with measurement of target per capita disposal. A jurisdiction's target disposal number is "approximately equivalent" to a 50 percent diversion rate. See: CalRecycle, "How the Measurement System Works." https://www.calrecycle.ca.gov/lgcentral/divmeasure/how2msys

[16] CalRecycle, "Countywide, Regional and Statewide Jurisdiction Diversion/Disposal Progress Report, San Mateo County, 1995-2016." https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DiversionDisposal

[17] CalRecycle, "Multi-year Countywide Origin Summary for the County of San Mateo." https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Origin/CountywideSummary

[18] San Mateo County Public Works Department, *Final Draft San Mateo County Integrated Waste Management Plan Summary Plan and Siting Element*, January 8, 1999.

[19] County of San Mateo, *2014 Five-Year Countywide Integrated Waste Management Plan Review Report*, October 2014 (copy provided by SMC Office of Sustainability), San Mateo County, *Five-Year Countywide Integrated Waste Management Plan Review Report*, December 2009 (copy provided by CalRecycle), and San Mateo County *Countywide Integrated Waste Management Plan Five Year Review*, January 2004 (copy provided by CalRecycle).

[20] Title 14, CCR § 18788. https://www.calrecycle.ca.gov/docs/cr/laws/regulations/title14/jan2019title14full.pdf

[21] SMC Public Works Department, 2009 CIWMP Five Year Review Report, p. 39.

[22] SMC CIWMP *Multi-Jurisdiction Non-Disposal Facility Element (June 10, 2010 Amendment).* http://www.co.sanmateo.ca.us/bos.dir/BosAgendas/agendas2010/Agenda20100629/20100629_att1_51.pdf

[23] SMC Public Works Department, 2014 Five Year CIWMP Review Report, p. 15.

[24] Correspondence with CalRecycle.

[25] Interview with County officials.

[26] Correspondence with CalRecycle.

input, including what should be included in a CIWMP revision, important. C/CAG comments are also provided to CalRecycle.[27]

The County's 1999 CIWMP is not available on the Office of Sustainability's website. The Grand Jury obtained a copy of the plan from CalRecycle. Both the Alameda County Waste Management Authority and the Santa Clara County Recycling and Waste Reduction Division post their CIWMPs on their websites.[28]

Should the County's 1999 CIWMP be revised?

The CIWMP Summary Plan and Siting Element are 20 years old. The Non-Disposal Facility Element (NDFE) is nearly 10 years old. The CIWMP does not include an updated description of solid waste management programs and facilities in the county.[29] For instance, the 2010 NDFE includes the Mussel Rock Transfer Station and the Ox Mountain wood chipping and grinding program, which are no longer in operation. The NDFE does not mention Blue Line Transfer Station's award-winning dry anaerobic digester, which recovers biomethane from food and green waste and converts it into compressed natural gas (CNG).[30]

Nevertheless, as noted above, each jurisdiction in the county is meeting its mandated 50 percent waste diversion goal, and the annual tonnage of waste disposed in landfills is still well below the amount in 1999. Given the success of existing waste diversion efforts, the Grand Jury questioned whether revising the CIWMP is worthwhile. To answer that question, this report casts a "spotlight" on four issues that speak to the inadequacy of the current plan and the compelling need for a plan revision.

Spotlight 1: Plan Goals and Objectives – A Broader Perspective Is Needed

The County's 1999 CIWMP included "countywide goals and objectives" for solid waste management. The major goal was to meet the mandate of AB 939 to divert 50 percent of waste by the year 2000.[31]

AB 939's mandate is still in effect. However, state and local goals are now more ambitious. AB 341 (2011) set a statewide goal of 75 percent waste diversion by 2020.[32] While this target is *not* mandatory, most San Mateo County jurisdictions, including the 12 members of the South

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[27] Interview and correspondence with County officials.

[28] Stopwaste.org, *Alameda County Countywide Integrated Waste Management Plan*, as amended through March 22, 2017 http://www.stopwaste.org/resource/reports/countywide-integrated-waste-management-plan-coiwmp and Santa Clara County *Integrated Waste Management Plan and Siting Element*, as amended through September 2017. https://www.sccgov.org/sites/rwr/Pages/CoIWMP.aspx

[29] While facilities and programs are updated in the Electronic Annual Report to CalRecycle prepared by each individual jurisdiction, the CIWMP is the only document where this information is consolidated and reviewed on a comprehensive, countywide basis.

[30] SMC *CIWMP Multi-Jurisdiction Non-Disposal Facility Element (June 10, 2010 Amendment),* pp. 5, 8, 9. http://www.co.sanmateo.ca.us/bos.dir/BosAgendas/agendas2010/Agenda20100629/20100629_att1_51.pdf *Recycling Today*, "Zero Waste Energy and Blue Line Transfer awarded 2015 Innovator of the Year," September 15, 2015. https://www.recyclingtoday.com/article/zero-waste-energy-blue-line-transfer-nwra-innovator/

[31] SMC Public Works Department, *Final Draft San Mateo County Integrated Waste Management Plan Summary Plan,* pp. 1-3, 3-27.

[32] CalRecycle, "History of California Solid Waste Law," 2010-2014, AB 341 (2011). https://www.calrecycle.ca.gov/Laws/Legislation/CalHist/

Bayside Waste Management Authority (SBWMA),[33] adopted it as a goal.[34] Further, in their Climate Action Plans (CAPs), [35] Atherton, Belmont and Colma adopted diversion goals of 80 to 90 percent. CAPs approved by the County of San Mateo and by the cities of Menlo Park and San Carlos support "zero waste," at least as an aspirational goal.

Relationship to the Global Environment

In large measure, the higher goals set by AB 341 and in the CAPs reflect a better understanding of waste management practices in light of global climate change. This includes a concern with landfill emissions of methane, a potent greenhouse gas (GHG) and, recently, a concern with what becomes of recyclables once exported to other nations, some with less stringent environmental and worker protection practices than in the United States. For instance, it is reported that some American recycled plastics are dumped in ravines and waterways in Malaysia.[36]

The SBWMA (Rethink Waste) responded to these concerns:

> "Recently there have been issues in the recycling industry related to environmental impacts related to plastics recycling. Most of these issues have been in SE Asia related to mixed plastics such as plastics #3-#7 and mixed film plastic. SBWMA has been unable to obtain assurances that those two commodities (#3-#7 and mixed film) are used in an environmentally responsible manner, and as a result we do not recover or market those materials."[37]

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[33] SBWMA, also known as Rethink Waste, is a joint powers authority formed in 1982 by Atherton, Belmont, Burlingame, East Palo Alto, Foster City, Hillsborough, Menlo Park, Redwood City, San Carlos, San Mateo (City), San Mateo (County), and West Bay Sanitary District, a wastewater treatment agency. SBWMA manages franchise agreements between member agencies and the provider (currently Recology) of curbside waste and recycling collection services. It also owns and oversees the management of the Shoreline Environmental Center in San Carlos, a solid waste transfer station and material recovery facility, and manages the landfill disposal contract for waste hauled from the transfer station. See: https://www.rethinkwaste.org/about/about-us

[34] SBWMA, *2015 Final Long Range Plan*, June 25, 2015, p. 1-3. https://www.rethinkwaste.org/uploads/media_items/2015-long-range-plan.original.pdf

[35] Town of Atherton, *Final Climate Action Plan*, October 19, 2019, p. 46. https://www.ci.atherton.ca.us/DocumentCenter/View/3535/CAP-Admin-Draft-ATT-2-10-19-16-FINAL-ADMIN-DRAFT-002?bidId= City of Belmont, *2017 Climate Action Plan*, p. 47. https://www.belmont.gov/home/showdocument?id=15622 City of Colma, *Climate Action Plan*, adopted May 8, 2013, p. 22 https://storage.googleapis.com/proudcity/colmaca/uploads/2017/02/5_08_13_Adopted-CAP.pdf City of Menlo Park, *Community Zero Waste Plan*, September 2017, p. 1. https://www.menlopark.org/DocumentCenter/View/17480/Community-Zero-Waste-Plan City of San Carlos, *Climate Action Plan*, October 12, 2009, p. 73. https://www.cityofsancarlos.org/government/departments/city-manager-s-office-communications/responsible-environment/climate-action-plan County of San Mateo, *Energy Efficiency Climate Action Plan*, June 2013, p. 130. https://www.smcsustainability.org/download/climate-change/Energy-Efficiency-Climate-Action-Plan.pdf

[36] See, for example, Veronica Weber, *Palo Alto Weekly*, "Rethinking Waste," April 12, 2019. https://www.paloaltoonline.com/news/2019/04/12/a-journey-of-9500-miles-why-recyclables-are-heading-overseas-to-asia , Ivan Watson, et. al., *CNN*, "China's recycling ban has sent America's plastic to Malaysia. Now they don't want it –so what's next?" April 27, 2019. https://www.cnn.com/2019/04/26/asia/malaysia-plastic-recycle-intl/index.html and Associated Press, "Malaysia to send back plastic waste to foreign nations," in *San Francisco Chronicle*, May 29, 2019. https://www.sfchronicle.com/world/article/Malaysia-to-send-back-plastic-waste-to-foreign-13901558.php

[37] Correspondence from SBWMA.

SBWMA's member jurisdictions make up about 60 percent of the county's population. Within this area, 100 percent of recycled plastic types #3-#7, primarily collected in Recology's "blue carts," are now actually landfilled.[38]

Relatedly, in January 2019 the City of Palo Alto revised its waste management franchise agreement[39] to provide that its contractor, GreenWaste Recovery, "shall attempt to gather information on the environmental and social implications associated with the full life-cycle of Palo Alto Recyclable Materials." The agreement states that the "City may establish a policy covering human rights and environmental standards to guide City involvement with at-risk purchasers/secondary processors." In the agreement, Palo Alto acknowledges that the full-life cycle of commodities is extremely difficult to track and that "with the current state of the markets, recyclables brokers are not in a position to place requirements on customers" (see discussion in Spotlight 4.)

A revised CIWMP could discuss policy alternatives to help guide jurisdictions in this county on ways to address issues associated with the global context of our local waste management practices.

Relationship to Environmental Justice

State law defines "environmental justice" as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."[40] CalRecycle has established an Environmental Justice Program,[41] in part to ensure that disadvantaged communities can "have a say in decisions that affect their well-being." The program includes working with local jurisdictions for "information sharing about local-level decisions." SB 1000 (2016) [42] the Planning for Healthy Communities Act, requires cities and counties, if they contain a "disadvantaged community," [43] to adopt an Environmental Justice Element of their General Plans, or to integrate environmental justice goals, policies and objectives into other elements of their general plans. This law addresses issues relevant to solid waste management such as "reduction of pollution exposure"

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[38] Ibid. As of June 11, 2019, the SBWMA website continues to include "plastic (#1-7)" among the items that residential and commercial customers should place in their "recycle – blue cart." https://www.rethinkwaste.org/residents/interactive-cart

[39] City of Palo Alto, "Second Amended and Restated Agreement for Solid Waste, Recyclable Materials, and Compostable Materials Collection and Processing Services between the City of Palo Alto and GreenWaste of Palo Alto, (as amended and restated, January 2019), Attachment K-3 Environmental and Social Impacts of Processing Recyclable Materials," pp. 1-2. https://www.cityofpaloalto.org/civicax/filebank/documents/68449https://www.cityofpaloalto.org/civicax/filebank/documents/68449

[40] CGC §65040.12. https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65040.12

[41] CalRecycle, "Environmental Justice," https://www.calrecycle.ca.gov/envjustice ; and CalRecycle, "Countywide Siting Element Adequacy." https://www.calrecycle.ca.gov/lgcentral/library/policy/CIWMPEnforce/part1/cseadq

[42] California Government Code Section 65302 (h). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1000

[43] According to the California Environmental Protection Agency, "California Climate Investments to Benefit Disadvantaged Communities," "List of Disadvantaged Communities," six census tracts in San Mateo County are identified as disadvantaged. They are generally located in South San Francisco, San Bruno, Redwood City and East Palo Alto (census tract boundaries may not correspond with municipal boundaries). https://calepa.ca.gov/EnvJustice/GHGInvest/

and "civil engagement in the public decision-making process." State guidelines for the new element[44] also address access to programs, citing, for example, jurisdictions that have "combined food recovery programs to reduce waste going to compost and ensuring the food is delivered to those most in need ... [t]his work also aligns with SB 1383 (2016) …" (see discussion in Spotlight 3 of this Grand Jury report). The guidelines also cite "zero waste policies."[45] The 1999 San Mateo County CIWMP is silent on environmental justice. By discussing these issues, as they pertain to solid waste management, a revised CIWMP could help local jurisdictions review their own decision-making processes and could potentially assist those jurisdictions that will be preparing General Plan Environmental Justice elements as well.

The 1999 San Mateo County CIWMP does not address the most recent state and local waste diversion goals or discuss waste management practices in the context of global environmental and worker protection issues or environmental justice. Unless the CIWMP is revised to reflect the emergence of these new goals and issues, there will be no countywide analysis on how to address them and valuable opportunities to develop plans to accelerate progress may be missed.

Spotlight 2: Limited Remaining Landfill Capacity

A CIWMP Siting Element must estimate the county's landfill disposal capacity needed over 15 years and identify how it is to be provided. If a county has less than 15 years of remaining capacity, the Siting Element is required to "provide a strategy for obtaining the remaining disposal capacity."[46]

San Mateo County's only active landfill is Ox Mountain, owned and operated by Republic Services and located near Half Moon Bay in unincorporated San Mateo County.[47] Currently, 87 percent of the county's waste is disposed at that facility.[48] A 2017 analysis of Ox Mountain states that "based upon current waste disposal rates, average density of the waste, and daily cover usage at the facility, the estimated closure date for the landfill is 2034."[49] The County's Solid Waste Facility Permit for Ox Mountain, issued in 2017, also includes a projected closure date of 2034."[50] The 1999 CIWMP Siting Element does not include a strategy for obtaining capacity beyond 2034, just 15 years from the present.

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[44] California Governor's Office of Planning and Research, "General Plan Guidelines: 2017 Update," p. 177. http://www.opr.ca.gov/planning/general-plan/guidelines.html

[45] Ibid.

[46] CalRecycle, "Countywide Siting Element Adequacy." https://www.calrecycle.ca.gov/lgcentral/library/policy/CIWMPEnforce/part1/cseadq

[47] SMC Health System, Solid Waste Facility Permit No. 41-AA-0002, "Corinda Los Trancos Landfill (Ox Mountain)," p. 1. Available at https://www2.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Detail

[48] Total disposal by San Mateo County jurisdictions in 2018 was 598,840 tons, of which 519,187 were disposed at Ox Mountain Landfill. See: CalRecycle, "Multi-year Countywide Origin Summary for the County of San Mateo" https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Origin/Countywide and CalRecycle, "Facility Reports: Jurisdiction of Origin Waste Disposal." https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Origin/FacilitySummary

[49] Republic Services and SWT Engineering, *Ox Mountain Landfill Environmental Impact Report Technical Addendum – Clarification of Landfill Capacity*, March 2017, p. 2.

[50] SMC Health System, Solid Waste Facility Permit No. 41-AA-0002, "Corinda Los Trancos Landfill (Ox Mountain)," p. 1. www.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Document/315790

Ox Mountain landfill's remaining years of life is uncertain. Indeed, the lifespan is subject to a number of factors such as changes in the amount of waste disposed, the rate of waste decomposition, and variation in the compaction rates of different materials.[51] The large and variable amount of waste disposed at Ox Mountain that is not Municipal Solid Waste (MSW), including contaminated soils, is another factor that complicates the calculation of remaining capacity.[52] Between 2012 and 2018, the amount of MSW disposed each year at Ox Mountain has increased by about 20 percent.[53] Other factors staying constant, continued increases in waste disposal will shorten the landfill's life.

According to local government officials and private operators interviewed, options for obtaining additional landfill capacity include:

- Opening a new landfill. Persons interviewed by the Grand Jury described siting any new landfill as "really difficult." Republic Services owns Apanolio Canyon, a potential new landfill site immediately north of Ox Mountain. An attempt in the 1990's to expand into Apanolio Canyon failed to gain approval.[54] The canyon is located in unincorporated San Mateo County and is also within the jurisdiction of the California Coastal Commission.
- Expanding Ox Mountain's capacity. A Republic Services official advised the Grand Jury that an expansion on top of the existing Ox Mountain site is possible, and that it may be easier to secure permits for such a vertical rise, since it would not affect an additional natural area.
- Exporting solid waste to landfills in other counties. Long-haul transfer vehicles can take waste to landfills in other counties. This may entail increased environmental impacts due to truck traffic and air pollution. It may also entail increased costs due to longer driver time and vehicle operational expense. Entry fees at other landfills may be higher than at Ox Mountain.
- Diverting more waste from landfills. The landfill's life could be extended by more waste diversion, assuming that the capacity that is freed up is not used by jurisdictions outside the county, or by increased disposal of contaminated soils or other non-MSW.

Interviewees advised the Grand Jury that it could take 10 to 15 years to secure required permits for a new or expanded landfill. One transfer station operator exclaimed "2034 – it's tomorrow!" Noting the financial and environmental benefits of having a nearby landfill, a local government official described Ox Mountain as "an incredibly valuable resource for the county."

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[51] See: CalRecycle, "Methodology for Determining Remaining Landfill Capacity." https://www.calrecycle.ca.gov/lea/advisories/45 and G. Tchobanoglause, H. Theisen and S. vigil, Integraged Solid Waste Management: Engineering Principles and Management Issues, 1993, pp. 472-478.

[52] Interview. Republic Services estimates total disposal of MSW and Non-MSW at about 1 million tons per year.

[53] From 482,275 tons in 2012 to 576,394 tons in 2018. See CalRecycle, "Multi-year Countywide Destination, San Mateo County, Corinda Los Trancos Landfill (ox Mtn), Hillside Class III Disposal Site," 1995-2007. https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/CountywideSummary

[54] SMC *CIWMP Siting Element*, 1999, p. VI-2. The earlier *1989 SMC CIWMP*, p. VI-5, had described Apanolio Canyon as "the preferred landfill site for accommodating San Mateo County's solid waste disposal needs for the next century or more."

Spotlight 3: Diversion of Organic Material from Landfills (SB 1383)

SB 1383 (2016)[55] declares that "[s]hort-lived climate pollutants, such as … methane … have a dramatic and detrimental effect on air quality, public health and climate change."[56] According to CalRecycle, anaerobic decomposition of organic waste in landfills produces "the majority of man-made methane emissions in California."[57] The alternatives to landfills, including aerobic composting, in-vessel (anaerobic) digestor facilities[58] and biomass conversion,[59] reduce methane production. Compost itself has environmental benefits including water conservation, improved soil health and carbon sequestration.[60] To reduce the production of methane, SB 1383 sets a target of "75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025."[61] This is intended "as a statewide average target and not as a minimum requirement for each jurisdiction."[62] To achieve this target, SB 1383 provides that CalRecycle "may require local jurisdictions to impose requirements on generators" and also "authorize local jurisdictions to impose penalties on generators for non-compliance."[63]

Based on a 2014 waste composition analysis by CalRecycle,[64] organics[65] make up about 71 percent of all solid waste disposed by San Mateo County jurisdictions.[66] Reducing organic waste by 75 percent from the 2014 base year would require diversion of about 292,000 tons per year.[67]

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[55] SB 1383 (2016) http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383, see Section 39730.6.

[56] SB 1383 Section 1(a)(1). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383

[57] CalRecycle, "Organic Materials Management and Climate Change." https://www.calrecycle.ca.gov/climate/organics

[58] In-vessel digestion is the process of biologically decomposing organic matter with little or no oxygen in a fully enclosed structure to produce biogas and a residual digestrate. See: 14 CA ADC §17896.2(a)(3), (6), (7)(A)(B). https://govt.westlaw.com/calregs/Document/I330CFCC2B1C844C6B42E128496EE6927?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

[59] Biomass conversion is the production of heat, fuels or electricity by controlled combustion technologies on green waste, wood waste and non-recyclable paper products separated from other solid wastes. See PRC §40106. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=40106

[60] CalRecycle, "Short Lived Climate Pollutants: Organic Waste Methane Emissions Reduction." https://www.calrecycle.ca.gov/climate/slcp ; also CalRecycle, "Organic Materials Management and Climate Change." https://www.calrecycle.ca.gov/climate/organics

[61] PRC §39730.6. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383

[62] SB 1383 Section 1(c). https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB1383

[63] PRC §42652.5(a). http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383

[64] A waste composition study determines the types and amounts of materials in the disposed waste stream. Such studies typically involve the sorting and weighing of samples of disposed waste. Source of data used in this report: CalRecycle, "Solid Waste Characterization Home." https://www2.calrecycle.ca.gov/wasteCharacterization/

[65] SB 1383 does not define "organics." The Glossary to this Grand Jury report uses the definition contained in CalRecycle's proposed regulation text, issued June 17, 2019, at §18982(a)(46). https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/proptextjune2019.pdf To calculate the proportion of the county's waste stream comprised of organics, the Grand Jury applied this definition to the waste categories contained in CalRecycle's 2014 waste composition study.

[66] The Grand Jury totaled the figures for the single- and multi-family residential and commercial sectors to arrive at a 70.7 percent composite figure.

[67] 550,662 total tons of solid waste were disposed in 2014, of which 70.7 percent (389,318 tons) were comprised of organics Seventy-five percent of 389,318 equals 291,989 tons to be diverted.

In June 2019, CalRecycle issued proposed regulations to implement SB 1383, but has not yet adopted them.[68] Under the proposed regulations, cities and counties (for unincorporated areas) must adopt "enforceable ordinances" or the equivalent that require waste generators to take their organics to "high diversion organic waste processing facilities"[69] that have an "organic content recovery rate that meets or exceeds … 75 percent after January 1, 2025."[70] Thus, by requiring generators to use these facilities, SB 1383's 75 percent organics waste diversion target will be achieved. The required local ordinances would apply to both franchised haulers, such as Recology or South San Francisco Scavenger, and "self-haulers," such as individuals and landscape services.[71]

The "high diversion organic waste processing facilities" referenced above will include new or expanded composting and in-vessel digestion facilities.[72] New markets for finished compost products will also be needed. The SBWMA's Executive Director wrote that "[t]his law is epic in scope and has far-reaching consequences to our member agencies." He noted that "in many ways, the law aligns with" the GHG reduction goals as stated in individual CAPs of member jurisdictions. He also noted that "[t]he full scope of … fiscal impacts are unknown at this time, largely because this law's enforcement regulations are not yet finalized."[73] A franchise hauler interviewed by the Grand Jury said that SB 1383 will have a larger impact than AB 939 (1989), the law which led to most of the waste diversion programs we have today. He described SB 1383 as "a ban without a plan." The 1999 CIWMP, of course, makes no mention of SB 1383.

The proposed SB 1383 regulations[74] also require county governments to calculate whether there is sufficient available capacity at existing organic waste diversion facilities, located both within and outside the county, to handle the additional organic waste that each jurisdiction is expected to divert in meeting the goals of SB 1383. If the county government finds that there is not sufficient capacity, it must notify that jurisdiction to submit an implementation schedule to CalRecycle that shows how that jurisdiction will obtain enough capacity to meet SB 1383 goals. In San Mateo County, the Office of Sustainability will perform these analyses, with input from the LTF, and the Office agrees that this information could be included in a revised CIWMP.[75] The Grand Jury considers the Office's central role in data analyses under SB 1383, along with its role in maintaining the CIWMP, as an opportunity for the Office to provide additional leadership in countywide waste management.

The proposed regulations also require landfill operators, such as Ox Mountain's Republic Services, to assess the impact on landfills from the reduced disposal of organics.[76] This could be

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[68] CalRecycle, "Short-lived Climate Pollutants (SLCP): Organic Waste Reductions, Proposed Regulation Text, Second Formal Draft" June 17, 2019.
https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/proptextjune2019.pdf
[69] Ibid, §18981.2 and §18988.1 through §18988.3.
[70] Ibid, §18982(a)(33).
[71] Ibid, §18984.9, §18988.1 through §18988.3.
[72] CalRecycle, "Short Lived Climate Pollutants: Organic Waste Methane Emissions Reduction."
https://www.calrecycle.ca.gov/climate/slcp
[73] Joe Mariana, Executive Director, SBWMA, "Staff Report: Study Session: SB 1383," March 28, 2019.
https://www.rethinkwaste.org/uploads/media_items/032819-study-session.original.pdf
[74] Supra, Note 68, §18992.1.
[75] Correspondence with Office of Sustainability.
[76] Supra, Note 68, §21695.

useful in the projection of remaining landfill lifespan in the CIWMP Siting Element (see discussion under Spotlight 2 of this Grand Jury report.)

Recovery of Edible Food:

SB 1383 also states that CalRecycle "shall include requirements intended to meet the goal that not less than 20 percent of edible food that is currently disposed … is recovered for human consumption by 2025."[77] To comply with this provision, CalRecycle's draft SB 1383 regulations require that local jurisdictions provide "Edible Food Recovery Education and Outreach" programs targeting commercial food generators such as supermarkets, food service distributors, and wholesale food markets, as well as large restaurants, hotels and large commercial special events and venues.[78] For each jurisdiction in a county, the county government must determine whether the existing capacity of food recovery organizations, such as Samaritan House and Second Harvest, is sufficient to make use of the large amount of additional food recovery contemplated by SB 1383. If there is not enough capacity, that jurisdiction must submit an implementation schedule to CalRecycle that demonstrates how that jurisdiction will ensure that sufficient capacity is provided.[79]

The Grand Jury is persuaded that these analyses could be included within a revised CIWMP and provide the Office of Sustainability with an opportunity to determine whether edible food rescue programs or facilities should be implemented on a countywide basis. For instance, Santa Clara County has a contract with Silicon Valley Talent Partnership to be that County's "Food Rescue Coordinator" to develop an action plan for a regional framework that matches surplus food to authorized agencies.[80]

Composting: New Facilities and Markets May Be Needed

CalRecycle projects a need for "between 75 and 100 new or expanded compost and anaerobic digestion facilities in California to process the amount of organic materials that will be required to be diverted" under SB 1383.[81] Currently, all collected compostable material in San Mateo County is sent elsewhere, including Santa Clara County. However, a 2017 Santa Clara County "Composting Processing Capacity and Organic Materials Diversion Study" found that, even with planned expansions at three composting operations, capacity would fall short of the amount needed to meet that county's projected organics generation.[82] The report adds: "[t]his does not

[77] PRC § 42652.5(a)(2). https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=42652.5

[78] Supra, Note 68, §18985.2.

[79] Ibid, §18992.2.

[80] County of Santa Clara Recycling and Waste Reduction Commission, Draft Minutes of the June 28, 2017 meeting, "Item 5. Food Rescue Update." https://www.sccgov.org/sites/rwr/rwrc/Documents/6-28-17%20Apprv%20RWRC%20Minutes.pdf Also: SCS Engineers, "Composting Processing Capacity and Organic Materials Diversion Study Final Report," October 2017, presented to County of Santa Clara Consumer and Environmental Protection Agency, October 2017, pp. 39-44. https://www.sccgov.org/sites/rwr/rwrc/Documents/10-25-17_RWRC_Final_Meeting_Packet.pdf

[81] California Air Resources Board, "Composting in California," August 2018 Discussion Paper, p. 3. https://www2.calrecycle.ca.gov/PublicNotices/Documents/9215

[82] County of Santa Clara Recycling and Waste Reduction Commission, SCS Engineers and Cascadia Consulting Group, "Composting Processing Capacity and Organic Materials Diversion Study, Final Report," October 2017, p. 2. https://www.sccgov.org/sites/rwr/rwrc/Documents/10-25-17_RWRC_Final_Meeting_Packet.pdf

include additional capacity needed for organics tonnage from outside the county."[83] A materials recovery facility operator interviewed by the Grand Jury advised that composting facilities are very difficult to site, especially due to concerns with odors. He reported that these concerns have increased with the inclusion of food waste in "green cart" collection programs. Siting facilities near disadvantaged communities in rural areas with high existing levels of pollution, such as in the Central Valley, can also trigger environmental justice issues (see discussion in Spotlight 1.)

In addition to securing additional capacity for composting, there will also be a need for a "dramatic increase" in end markets to ensure beneficial use of the finished composted material.[84] A possible new market for compost is as a component in "carbon farming," a practice in which carbon is sequestered and stored in the soil so that "carbon gains … exceed carbon losses."[85] Developed in the Bay Area by the Marin Agricultural Land Trust, working with local ranchers, it is now undergoing a pilot study by the Alameda County Waste Management Authority in partnership with the Alameda County Resource Conservation District.[86]

The SMC Office of Sustainability reports that it is "currently contracted with the San Mateo Resource Conservation District to have them do a study as to the feasibility of constructing" an "organics facility along the coast, with an emphasis on agricultural and livestock waste recycling."[87]

A revised CIWMP could discuss the lack of organics processing capacity to meet future demand, as well as the need to develop new markets for the beneficial use of the finished composted material.

Prohibiting Disposal of Green Waste:

SB 1383 states that CalRecycle "shall not establish a numeric organic waste disposal limit for individual landfills."[88] According to persons interviewed by the Grand Jury, under SB 1383, responsibility for organics diversion falls on generators, not landfills. Landfills may continue to dispose any organics they receive, including green waste. Some green waste is already being disposed at Ox Mountain.[89] The Grand Jury is concerned that, as the cost to use high diversion organic waste processing facilities increases, there will be an incentive for green waste generators, particularly self-haul by individuals and landscape services, to avoid these facilities by taking their waste directly to the landfill instead. In 2008, Alameda County banned the disposal of green waste at landfills within that county. It justified its action as "reasonably

[83] Ibid.
[84] Athens Services et al. "Comments on Senate Bill 1383 Draft Proposed Regulations," January 15, 2018. http://www.counties.org/sites/main/files/file-attachments/sb_1383-swig_alternative-final_01-19-18.pdf
[85] Marin Carbon Project, "What Is Carbon Farming?" https://www.marincarbonproject.org/what-is-carbon-farming See also Moises Velasquez-Manoff, "Can Dirt Save the Earth?" *New York Times*, April 18, 2018. https://www.nytimes.com/2018/04/18/magazine/dirt-save-earth-carbon-farmingclimate-change.html
[86] Alameda County Waste Management Authority, *Fiscal Year 2018-19 Budget*, Project #1260. http://www.stopwaste.org/resource/stopwaste-integrated-budget-fy-18-19
[87] Correspondence from SMC Office of Sustainability.
[88] PRC §42652.5(a)(2). http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383
[89] Interview.

necessary" to implement the goals and policies of the Alameda County CIWMP, including waste reduction and conservation of landfill capacity.[90]

In 2015, the SBWMA considered a proposal to encourage the County Board of Supervisors to adopt a ban on disposal of green waste and food scraps. At that time, SBWMA staff viewed this approach as a "low priority" item and recommended that the agency consider this alternative after the year 2020. [91] This discussion at the SBWMA pre-dates enactment of SB 1383.

A CIWMP revision is an opportunity to consider whether the County Board of Supervisors should enact an ordinance banning green waste at Ox Mountain landfill, with possible expansion to include other organics.

Spotlight 4: Diminishing Markets for Recyclable Materials

Each year, California exports about a third of the recyclable material it collects.[92] Historically, most of this – particularly unsorted mixed paper and mixed plastics – was bought by processors in China, who used our recycled waste as a raw material for the manufacture of new products.[93] However, in February 2018 the Chinese "National Sword" policy came into effect. It included:[94]

- "Reduced tolerance for contaminants" (from 5 percent reduced to 0.5 percent by weight)
- "Zero tolerance for food waste contamination"
- "Restricted import license allowances and outright bans on import of certain mixed grades of recyclables"

There continues to be a relatively strong market demand for recycled metal and glass containers, old corrugated paper containers (OCC), and for Type #1 (PET) and Type #2 (HDPE) plastics.[95] However, mixed paper and plastic types #3 through #7, previously sold to China, are now diverted to other Asian markets.[96] This has led to an oversupply of imported recyclables available for sale in those countries,[97] which, in turn, has led to a decline in the prices buyers are

[90] Alameda County Waste Management Authority, Ordinance 2008-01, adopted January 28, 2009. http://www.stopwaste.org/resource/policies/plant-debris-landfill-ban-ordinance
[91] SBWMA, *2015 Final Long Range Plan* (2015), pp. 64-67. https://www.rethinkwaste.org/uploads/media_items/2015-long-range-plan.original.pdf
[92] CalRecycle, "National Sword and China's Restriction on the Import of Recyclable Material." http://www.calrecycle.ca.gov/Markets/NationalSword/
[93] Ibid.
[94] Tom Padia, Stopwaste.org, "National Sword/Recycling Markets Update," April 25, 2018. http://www.stopwaste.org/sites/default/files/National%20Sword%20-%20Recycling%20Markets%20Update.pdf
[95] Ibid and interviews.
[96] Wendy Lee and Peter Fimrite, "Trade war hits salvage firms," *San Francisco Chronicle*, August 15, 2018. https://www.pressreader.com ; Anna Schuessler, "Where does it go? County waste facilities weather changing tides of recycling, garbage trends." *The Daily Journal*, September 13, 2018. https://www.smdailyjournal.com/news/local/where-does-it-go/article_ca096e96-b717-11e8-909a-5bd7c61b91ae.html ; and Interviews.
[97] Ibid.

willing to pay.[98] Furthermore, Thailand, Malaysia, Vietnam and India have all added new restrictions on imported recyclables, though none are as severe as those China implemented.[99]

Curbside recycling programs in San Mateo County have been impacted financially by the decline in the price processors pay for our collected recyclables. In some cases, recycling programs must now pay processors to take certain types of material off their hands. South San Francisco Scavenger Company (SSFSC) reports that revenue per ton for mixed paper has dropped from a positive $100 to a negative $3 per ton.[100] According to interviews with SBWMA staff, their operations have also been impacted. SBWMA projects a drop in its net revenue from the sale of recyclables of $3.8 million (from $8,959,000 in 2017 to $5,107,000 in 2019).[101] This is a significant hit, as total SBWMA revenue from all sources was just $50.4 million in 2017.[102] SBWMA has increased the tipping fee charged to users at the Shoreline Environmental Center to make up the difference.[103] Space to stockpile recyclable material that is not sold abroad is limited. As a result, since February 2018 the proportion of SBWMA's collected recyclables that is sent to Ox Mountain rose from 7 to 12 percent. "Plastic types #3 through #7" is the largest category of previously recycled materials now being landfilled (see additional discussion regarding landfilling of recycled plastics under Spotlight 1 of this report).[104]

To the Grand Jury's knowledge, so far, all collection programs in San Mateo County continue to operate. However, some communities around the United States have suspended recycling entirely.[105]

There is no easy solution to these market issues. Public education is one key component – for example, encouraging the public to remove contaminants, especially food waste and liquids, from items placed in recycling carts.[106] Contamination is a particular problem with single-stream curbside programs used in most of San Mateo County in which various types of recyclables are mixed in the "blue cart" prior to sorting at the material recovery facility.[107] Unfortunately, the sorting process is typically incomplete. A 2018 composition study of SBWMA's sorted material, for example, found that 11 percent of baled "mixed paper" leaving the Shoreline Environmental Center actually consisted of metals, plastics, and "trash."[108] SBWMA is considering adding

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[98] Ibid.
[99] CalRecycle, "National Sword and China's Restriction on the Import of Recyclable Material." http://www.calrecycle.ca.gov/Markets/NationalSword/
[100] Interview.
[101] Joe La Mariana, Executive Director, SBWMA, staff report to Board of Directors, Agenda Item 11B: "Information Update: Tipping Fee Increase Effective 1/1/19," "Attachment A, Table 3 Commodity Revenue Summary," November 15, 2018. https://www.rethinkwaste.org/uploads/media_items/111518-informational-items.original.pdf
[102] Correspondence with SBWMA.
[103] Joe La Mariana, Executive Director, SBWMA, staff report to Board of Directors, Agenda Item 11B: "Information Update: Tipping Fee Increase Effective 1/1/19," November 15, 2018. https://www.rethinkwaste.org/uploads/media_items/111518-informational-items.original.pdf
[104] Interview and correspondence with SBWMA.
[105] Mary Esch, The Associated Press, "Marketing forces put America's recycling industry in the dumps," *The Daily Journal*, October 11, 2018. https://www.mcall.com/business/mc-biz-recycling-china-market-20181011-story.html
[106] Interview.
[107] Interview.
[108] Interview and SBWMA, "Capital Improvements Projects Presentation," Board of Directors Meeting, February 28, 2019. https://rethinkwaste.org/uploads/media_items/022819

$15.5 million in sort system equipment upgrades to remove more contaminants and recover a higher volume of recyclable materials (and their associated revenue).[109] However, an SBWMA official advised the Grand Jury that "it is our understanding that no existing material recovery facility in the U.S. produces recyclables that meet the new Chinese standard." Other potential options include development of new domestic markets for recycled materials, bans on the use of certain difficult to recycle products, and development of new technologies to process problem materials, such as plastics.

The Grand Jury is convinced that a revised CIWMP could at least discuss these issues and perhaps identify additional public education and technical assistance, perhaps on a countywide level, that could improve the marketability of the county's collected recyclable materials.

Response of the SMC Office of Sustainability

In discussions with the Grand Jury, senior staff at the Office of Sustainability agreed that the CIWMP, including the Siting Element, should be updated and that "2019 is an opportune time" to do so. At the time of this writing, the Office has not defined the scope or details of such an update.

An "AB 939 fee" is a state-authorized per ton charge imposed by SMC at landfills to pay for preparing, adopting and implementing CIWMPs.[110] The Office of Sustainability advised the Grand Jury that the AB 939 fee could be used to pay for a plan revision without a fee increase.

CONCLUSIONS

The question raised by the Grand Jury is whether the 1999 CIWMP should be revised. The Grand Jury finds that the CIWMP is potentially a valuable tool for effective countywide solid waste management planning, and an important guide for decision makers and the public. Revising the CIWMP is merited for a number of reasons:

- By revising the CIWMP, the County could incorporate more aggressive waste diversion goals established in local CAPs since 2008, as well as the 75 percent statewide overall waste diversion goal contained in AB 341 (2011). These goals could be a basis for new countywide strategic planning efforts going forward. A revised CIWMP could also examine the county's waste management practices within an updated environmental context, recognizing global climate change, and including the impacts of our waste management practices on the foreign nations that process our recycled waste. It could also address environmental justice policies in local government decision-making.
- With a projected Ox Mountain landfill closure date of 2034, a revised CIWMP Siting Element could identify a long-term strategy to preserve or expand landfill capacity or find out-of-county alternatives.
- A revised CIWMP could identify what new facilities and programs are needed to meet the SB 1383 (2016) 75 percent organics diversion and 20 percent edible food rescue targets and assess the opportunities for a coordinated local or even countywide response.

[109] Ibid.
[110] CalRecycle, "History of California Solid Waste Law," 1927-2019, AB 939 (1989). https://www.calrecycle.ca.gov/Laws/Legislation/CalHist/

This could include consideration of a ban by the County of San Mateo on disposal of green waste and possibly other organics at the Ox Mountain landfill.

- While the county cannot control international markets for recyclables, a revised CIWMP could consider local actions to mitigate market problems, either by generating less waste through source reduction, reducing the level of contamination, development of new domestic markets for recyclables, or outright local bans on the use of certain difficult-to-recycle products. Improved public education and technical assistance could play a role in some of these approaches.

FINDINGS

F1. The County's Countywide Integrated Waste Management Plan (CIWMP) was adopted in 1999. Five Year Reviews by the County conducted in 2004, 2009 and 2014 did not identify a need to revise the CIWMP Summary Plan or Siting Element. The Five Year Review in 2009 identified a need to revise the CIWMP Non-Disposal Facility Element, which was done in 2010. In 2019, the CIWMP is scheduled for its fourth Five Year Review. The state requires such a review to assess whether a plan revision is warranted.

F2. The County's Office of Sustainability is responsible for preparing the 2019 Five Year Review. State law requires it to refer the review and any CIWMP revision to the Local Task Force (LTF), which is the San Mateo City/County Association of Governments (C/CAG). The LTF may also provide input into what should be updated in the CIWMP. LTF comments are provided to CalRecycle. Solid waste management is a responsibility of all local jurisdictions and their input, through C/CAG, is necessary to a comprehensive CIWMP review.

F3. As of the date of this writing, the 1999 CIWMP is not available to the public on the San Mateo County Office of Sustainability's website.

F4. The 1999 CIWMP Summary Plan, the 2010 Non-Disposal Facility Element, and the 2014 Five Year Review do not include updated descriptions of solid waste management facilities and programs implemented by the County, local jurisdictions, or their private franchise holders. While facilities and programs are updated in the Electronic Annual Report to CalRecycle prepared by each individual jurisdiction, the CIWMP and its five-year reviews are the only documents where this information is consolidated and reviewed on a comprehensive, countywide basis.

F5. The primary goal of the 1999 CIWMP was to meet the state-mandated 50 percent waste diversion rate. The CIWMP does not reflect the state's newer non-mandated 75 percent waste diversion goal (AB 341, 2011), nor the even more ambitious goals adopted by some jurisdictions in this county through their CAPs. Further, the CIWMP does not discuss solid waste management in the context of global climate change, including the issue of landfill emissions of methane (a potent greenhouse gas) and the issue of what becomes of the county's recyclables once they are exported to other nations, some with less stringent environmental and worker protection practices than in the United States.

F6. The 1999 CIWMP does not discuss environmental justice concerns related to solid waste management decision-making by local jurisdictions in San Mateo County.

F7. The state requires a CIWMP Siting Element to provide a strategy for obtaining landfill disposal capacity if there is less than 15 years of capacity remaining in the county. The projected lifespan of the only active landfill in the county, privately-owned Ox Mountain, is 15 years (to the year 2034). The 1999 CIWMP does not present a strategy for providing landfill capacity after that date.

F8. SB 1383 (2016) sets a statewide goal to reduce the annual tons of organic material disposed in landfills by 75 percent (using 2014 tonnage as a base year) by the year 2025. The 1999 CIWMP does not discuss the challenge of meeting the goals contained in SB 1383 or consider whether programs or facilities should be implemented on a multi-jurisdictional or even countywide basis.

F9. SB 1383 (2016) sets a specific goal that at least 20 percent of edible food that is currently landfilled be recovered for human consumption by the year 2025. The 1999 CIWMP does not discuss the challenge of meeting SB 1383's edible food rescue goal or consider whether any programs or facilities should be implemented on a countywide basis.

F10. Changes in international markets for recyclables have adversely affected recycling programs in this county. The loss of markets means some collected recyclable materials in this county are landfilled instead. The diversion of recyclable materials to remaining international markets has created a glut, which has led to a drop in the revenue recycling programs in this county receive for their material. The 1999 CIWMP does not discuss these challenges or consider whether any additional programs, such as public education or technical assistance, should be implemented on a countywide basis.

F11. San Mateo County does not prohibit disposal of green waste or other organics at the Ox Mountain landfill. The availability of a lower-cost landfill alternative to expensive new organic waste diversion facilities could undermine waste diversion efforts. The 1999 CIWMP does not discuss the possibility of banning disposal of organic waste at the Ox Mountain landfill or consider the potential benefits of doing so.

RECOMMENDATIONS

R1. The Grand Jury recommends that the San Mateo County Office of Sustainability replace the existing 1999 Countywide Integrated Waste Management Plan (CIWMP), including the Summary Plan, the landfill Siting Element, and the Non-Disposal Facilities Element (as amended in 2010) with a revised plan by January 1, 2021. At a minimum, the revised plan should address:

- Updated descriptions of solid waste management facilities and programs implemented by the County, local jurisdictions, and their private franchise holders.
- Goals, objectives, policies and implementation measures that reflect the overall 75 percent waste diversion target contained in AB 341 (2011), the 75 percent organics waste

diversion target contained in SB 1383 (2016), the 20 percent edible food diversion target contained in SB 1383 (2016), and consider the more aggressive waste diversion targets contained in the CAPs adopted by several San Mateo County jurisdictions, including the goal of "zero-waste."

- Possible policies related to the impact of waste management practices in San Mateo County on the global environment, including emissions of methane from landfills, and the environmental and social impacts that may occur when the county's recyclables are exported to other nations with the less stringent environmental and worker protection practices than in the United States.
- Environmental justice concerns as they relate to solid waste management decision-making by local jurisdictions in this county.
- A strategy and schedule for providing additional landfill capacity after year 2034, when the county's Ox Mountain landfill is projected to reach its current permitted capacity.
- A County ordinance banning the disposal of green waste and possibly other organics at the Ox Mountain landfill, in order to support organic waste diversion programs and conserve landfill capacity.
- Whether the Office of Sustainability should implement additional countywide programs including public education and technical assistance related to waste diversion. The CIWMP should also consider whether the Office of Sustainability should coordinate the rescue of edible food waste at the countywide level.

R2. The Grand Jury recommends that the City/County Association of Governments (C/CAG), in its role as the Local Task Force (LTF), participate with the County Office of Sustainability in revising the CIWMP.

R3. The Grand Jury recommends that the San Mateo County Office of Sustainability make the existing 1999 CIWMP and all Five Year Reviews available to the public on its website by September 30, 2019 and place the revised CIWMP on its website after it is drafted and adopted by the County Board of Supervisors.

REQUEST FOR RESPONSES

Pursuant to Penal Code Section 933.05, the Grand Jury requests that each of the following respond to the foregoing Findings and Recommendations referring in each instance to the number thereof:

County of San Mateo Board of Supervisors for R1 and R3

City/County Association of Governments Board of Directors for R2

METHODOLOGY

Information contained in this report is based upon interviews and correspondence with six representatives of public agencies and private companies involved with waste management practices in San Mateo County, as well as correspondence and communications with two staff members at CalRecycle. The Grand Jury also relied upon information contained in public documents and published articles and books identified in the Bibliography.

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Issued: July 30, 2019

County of San Mateo

Inter-Departmental Correspondence

APPROVED BY
BOARD OF SUPERVISORS
OCT 22 2019
CLERK OF BOARD
BY DEPUTY

Department: COUNTY MANAGER
File #: 19-1012

Board Meeting Date: 10/22/2019

Special Notice / Hearing: None
Vote Required: Majority

To: Honorable Board of Supervisors

From: Michael P. Callagy

Subject: Board of Supervisors' Response to the 2018-2019 Civil Grand Jury Report, "Planning for the County's Waste Management Challenges"

RECOMMENDATION:
Approve the Board of Supervisors' response to the 2018-2019 Civil Grand Jury Report, "Planning for the County's Waste Management Challenges".

BACKGROUND:
On July 30, 2019, the 2018-2019 San Mateo County Civil Grand Jury issued a report titled "Planning for the County's Waste Management Challenges". The Board of Supervisors is required to submit comments on the findings and recommendations pertaining to the matters over which it has some decision-making authority within 90 days. The Board's response to the report is due to the Honorable Donald J. Ayoob no later than October 28, 2019.

DISCUSSION:
The Grand Jury made eleven findings and three recommendations in its report. The Board responses follow each finding and the three recommendations that the Grand Jury requested that the Board respond to within 90 days.

FINDINGS

Finding 1:
The County's Countywide Integrated Waste Management Plan (CIWMP) was adopted in 1999. Five Year Reviews by the County conducted in 2004, 2009, and 2014 did not identify a need to revise the CIWMP Summary Plan or Siting Element. The Five-Year Review in 2009 identified a need to revise the CIWMP Non-Disposal Facility Element, which was done in 2010. In 2019, the CIWMP is scheduled for its fourth Five Year Review. The state requires such a review to assess whether a plan revision is warranted.

Response: The County agrees with this finding.

Finding 2:
The County's Office of Sustainability is responsible for preparing the 2019 Five Year Review. State law requires it to refer the review and any CIWMP revision to the Local Task Force (LTF), which is the San Mateo City/County Association of Governments (C/CAG). The LTF may also provide input into what should be updated in the CIWMP. LTF comments are provided to CalRecycle. Solid waste management is a responsibility of all local jurisdictions and their input, through C/CAG, is necessary to a comprehensive CIWMP review.

Response: The County agrees with this finding.

Finding 3:
As of the date of this writing, the 1999 CIWMP is not available to the public on the San Mateo County Office of Sustainability's website.

Response:
The County agrees with this finding. (Note - As of July 3rd, 2019 the 1999 CIWMP was available to the public on the San Mateo County Office of Sustainability website located at: https://www.smcsustainability.org/waste-reduction/reduce-reuse-recycle/#countywide-

Finding 4:
The 1999 CIWMP Summary Plan, the 2010 Non-Disposal Facility Element, and the 2014 Five-Year Review do not include updated descriptions of solid waste management facilities and programs implemented by the County, local jurisdictions, or their private franchise holders. While facilities and programs are updated in the Electronic Annual Report to CalRecycle prepared by each individual jurisdiction, the CIWMP and its five-year reviews are the only documents where this information is consolidated and reviewed on a comprehensive, countywide basis.

Response: The County agrees with this finding.

Finding 5:
The primary goal of the 1999 CIWMP was to meet the state-mandated 50 percent waste diversion rate. The CIWMP does not reflect the State's newer non-mandated 75 percent waste diversion goal (AB 341, 2011), nor the even more ambitious goals adopted by some jurisdictions in this county through their CAPs. Further, the CIWMP does not discuss solid waste management in the context of global climate change, including the issue of landfill emissions of methane (a potent greenhouse gas) and the issue of what becomes of the county's recyclables once they are exported to other nations, some with less stringent environmental and worker protection practices than in the United States.

Response:
The County agrees with this finding. However, it should be noted that none of the aforementioned issues are required to be included in the CIWMP per state legislation.

Finding 6:
The 1999 CIWMP does not discuss environmental justice concerns related to solid waste management decision-making by local jurisdictions in San Mateo County.

Response: The County agrees with this finding.

Finding 7:

The State requires a CIWMP Siting Element to provide a strategy for obtaining landfill disposal capacity if there is less than 15 years of capacity remaining in the county. The projected lifespan of the only active landfill in the county, privately-owned Ox Mountain, is 15 years (to the year 2034). The 1999 CIWMP does not present a strategy for providing landfill capacity after that date.

Response:
The County disagrees partially with this finding. The County has recently received an updated report from Ox Mountain (dated July 16, 2019), which states that Ox Mountain has 19 years of capacity remaining.

Finding 8:
SB 1383 (2016) sets a statewide goal to reduce the annual tons of organic material disposed in landfills by 75 percent (using 2014 tonnage as a base year) by the year 2025. The 1999 CIWMP does not discuss the challenge of meeting the goals contained in SB 1383 or consider whether programs or facilities should be implemented on a multi-jurisdictional or even countywide basis.

Response: The County agrees with this finding.

Finding 9:
SB 1383 (2016) sets a specific goal that at least 20 percent of edible food that is currently landfilled be recovered for human consumption by the year 2025. The 1999 CIWMP does not discuss the challenge of meeting SB 1383's edible food rescue goal or consider whether any programs or facilities should be implemented on a countywide basis.

Response: The County agrees with this finding.

Finding 10:
Changes in international markets for recyclables have adversely affected recycling programs in this county. The loss of markets means some collected recyclable materials in this county are landfilled instead. The diversion of recyclable materials to remaining international markets has created a glut, which has led to a drop in the revenue recycling programs in this county receive for their material. The 1999 CIWMP does not discuss these challenges or consider whether any additional programs, such as public education or technical assistance, should be implemented on a countywide basis.

Response:
The County disagrees partially with this finding. The 1999 CIWMP does discuss countywide programs including a mass media public outreach campaign, schools recycling and recycling education, and compost demonstration gardens (Chapter 4, Section F of the CIWMP Summary Plan).

Finding 11:
San Mateo County does not prohibit disposal of green waste or other organics at the Ox Mountain landfill. The availability of a lower-cost landfill alternative to expensive new organic waste diversion facilities could undermine waste diversion efforts. The 1999 CIWMP does not discuss the possibility of banning disposal of organic waste at the Ox Mountain landfill or consider the potential benefits of doing so.

Response: The County agrees with this finding.

RECOMMENDATIONS

Recommendation 1:
The Grand Jury recommends that the San Mateo County Office of Sustainability replace the existing 1999 Countywide Integrated Waste Management Plan (CIWMP), including the Summary Plan, the landfill Siting Element, and the Non-Disposal Facilities Element (as amended in 2010) with a revised plan by January 1, 2021. At a minimum, the revised plan should address:

- Updated descriptions of solid waste management facilities and programs implemented by the County, local jurisdictions, and their private franchise holders.
- Goals, objectives, policies and implementation measures that reflect the overall 75 percent waste diversion target contained in AB 341 (2011), the 75 percent organics waste diversion target contained in SB 1383 (2016), the 20 percent edible food diversion target contained in SB 1383 (2016), and consider the more aggressive waste diversion targets contained in the CAPs adopted by several San Mateo County jurisdictions, including the goal of "zero-waste."
- Possible policies related to the impact of waste management practices in San Mateo County on the global environment, including emissions of methane from landfills, and the environmental and social impacts that may occur when the county's recyclables are exported to other nations with the less stringent environmental and worker protection practices than in the United States.
- Environmental justice concerns as they relate to solid waste management decision-making by local jurisdictions in this county.
- A strategy and schedule for providing additional landfill capacity after year 2034, when the county's Ox Mountain landfill is projected to reach its current permitted capacity.
- A County ordinance banning the disposal of green waste and possibly other organics at the Ox Mountain landfill, in order to support organic waste diversion programs and conserve landfill capacity.
- Whether the Office of Sustainability should implement additional countywide programs including public education and technical assistance related to waste diversion. The CIWMP should also consider whether the Office of Sustainability should coordinate the rescue of edible food waste at the countywide level.

Response:
The recommendation requires further analysis.

Each jurisdiction's Source Reduction and Recycling Element <https://www.calrecycle.ca.gov/LGCentral/Glossary/> (SRRE), Household Hazardous Waste Element <https://www.calrecycle.ca.gov/LGCentral/Glossary/> (HHWE), and Nondisposal Facility Element <https://www.calrecycle.ca.gov/LGCentral/Glossary/> (NDFE) were due to CalRecycle on April 30, August 31, or December 31, 1994. The subsequent review periods are conducted via the Local Task Force. Nothing in statute or regulation specifies what kind or size of change triggers the need for a plan revision, either as a result of analysis by CalRecycle or a county or regional agency. Title 14, CCR Section 18788 does, however, specify certain topic areas that should be addressed in a five-year review report.

The County agrees that the CIWMP merits a review, as per CalRecycle regulations that require the CIWMP be reviewed every five years from the anniversary of its adoption. However, the decision to revise the CIWMP is part of a process, which includes soliciting feedback from stakeholders through a collaborative effort organized through C/CAG as the Local Task Force (LTF). The LTF reviews the CIWMP to determine if revisions are needed, then submits its findings to the County Office of Sustainability for consideration.

The five-year review process is currently underway, with the final review report expected to be sent to the Board of Supervisors for approval in November 2019. If the result of this process is a recommendation to revise elements of the CIWMP, the County will begin that process. The specifics as to what should be revised in the CIWMP will be determined by the process, which would include input from the public, environmental organizations, cities, special districts, waste haulers, and waste facility operators.

Recommendation 2:
The Grand Jury recommends that the City/County Association of Governments (C/CAG), in its role as the Local Task Force (LTF), participate with the County Office of Sustainability in revising the CIWMP.

Response:
The recommendation has been implemented. The County is currently working with C/CAG to determine if a revision is required for the CIWMP.

Recommendation 3:
The Grand Jury recommends that the San Mateo County Office of Sustainability make the existing 1999 CIWMP and all Five-Year Reviews available to the public on its website by September 30, 2019 and place the revised CIWMP on its website after it is drafted and adopted by the County Board of Supervisors.

Response:
The recommendation has been implemented. The Office of Sustainability has made these documents available as of July 30, 2019 on its website, located at: https://www.smcsustainability.org/waste-reduction/reduce-reuse-recycle/#countywide- . If the decision is made to revise the CIWMP, the County agrees with the recommendation to make the revised CIWMP available on its website.

FISCAL IMPACT:
There is no Net County Cost associated with accepting this report.

C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY

Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay • Hillsborough • Menlo Park • Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County •South San Francisco • Woodside

September 12, 2019

Hon. Donald J. Ayoob
Judge of the Superior Court
c/o Charlene Kresevich
Hall of Justice
400 County Center; 2nd Floor
Redwood City, CA 94063-1655

Subject: **C/CAG's RESPONSE TO THE 2018-2019 SAN MATEO COUNTY CIVIL GRAND JURY REPORT TITLED "PLANNING FOR THE COUNTY'S WASTE MANAGEMENT CHALLENGES"**

Honorable Judge Ayoob,

This letter was approved by the Board of Directors of the City/County Association of Governments of San Mateo County (C/CAG) at its public meeting on September 12, 2019.

Below are C/CAG's responses to the 2018-2019 San Mateo County Civil Grand Jury Report titled "Planning for the County's Waste Management Challenges".

GRAND JURY FINDINGS:

F2. *The County's Office of Sustainability is responsible for preparing the 2019 Five Year Review. State law requires it to refer the review and any CIWMP revision to the Local Task Force (LTF), which is the San Mateo City/County Association of Governments (C/CAG). The LTF may also provide input into what should be updated in the CIWMP. LTF comments are provided to CalRecycle. Solid waste management is a responsibility of all local jurisdictions and their input, through C/CAG, is necessary to a comprehensive CIWMP review.*

Response: C/CAG agrees with Finding 2 (F2).

GRAND JURY RECOMMENDATIONS

R2. *The Grand Jury recommends that the City/County Association of Governments (C/CAG), in its role as the Local Task Force (LTF), participate with the County Office of Sustainability in revising the CIWMP.*

Response: C/CAG has established a Countywide Integrated Waste Management Plan (CIWMP) Review Ad Hoc Committee to review the CIWMP documents. That Ad Hoc committee is currently working with the County to determine if a revision is required for the CIWMP.

If you have any questions, please contact the C/CAG Executive Director, Sandy Wong, at (650) 599-1409.

Sincerely,

Maryann Moise Derwin, Chair
City/County Association of Governments of San Mateo County