

**Addendum to the
Final Environmental Impact Report**

**Mandatory Recycling and
Single Use Bag Reduction
Ordinances**

State Clearinghouse # 2011042012



August 2016

ADDENDUM TO THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE MANDATORY RECYCLING AND SINGLE USE BAG REDUCTION ORDINANCES

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1.0 PURPOSE OF ADDENDUM

The California Environmental Quality Act (CEQA) recognizes that between the date an environmental document is completed and the date the project is fully implemented, one or more of the following changes may occur: 1) the project may change; 2) the environmental setting in which the project is located may change; 3) laws, regulations or policies may change in ways that impact the environment; and/or 4) previously unknown information can arise. Before proceeding with a project, CEQA requires the Lead Agency to evaluate these changes to determine whether or not they affect the conclusions in the environmental document.

In 2011, the Alameda County Waste Management Authority (ACWMA) certified the Final Environmental Impact Report (2011 FEIR) for the Mandatory Recycling and Single Use Bag Reduction Ordinances (SCH #2011042012). The 2011 FEIR analyzed the environmental impacts resulting from adoption of two ordinances: 1) a Mandatory Recycling Ordinance that would require all Alameda County single-family, multi-family, and commercial generators to segregate recyclable and organic materials for recovery, and 2) a Single Use Bag Reduction Ordinance that would prohibit the free distribution of single use carryout paper and plastic bags at the point of sale for all retail establishments in Alameda County except public eating establishments and nonprofit charitable reuse organizations, while allowing the distribution of single use paper bags containing at least 40 percent recycled content or reusable bags for a charge of at least 10 cents. The ACWMA adopted a limited version of the Single Use Bag Reduction Ordinance evaluated in the 2011 FEIR that only applies to some retail establishments, such as grocery stores, supermarkets, convenience stores, liquor stores, and drug stores.

Since certification of the 2011 FEIR and approval of the Ordinances, changes to the Single Use Bag Reduction Ordinance have been proposed, which are the subject of this Addendum. In addition, studies conducted since adoption of the Single Use Bag Ordinance have revealed new information regarding how a single use bag reduction ordinance impacts the use of paper bags. The purpose of this Addendum is to analyze the impacts which may result from the modified ordinance and new information (see Section 2.0, *Description of the Proposed Changes to the Project*, Section 3.0, *New Information*).¹The CEQA Guidelines Section 15162 states that when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project

¹ As described elsewhere in this Addendum, the 2011 FEIR analyzed the impacts of an ordinance that applied to all retail establishments in the County. The assessment of impacts in this Addendum, therefore, focuses on impacts that may result from modifying the ordinance to also apply to public eating establishments.

unless the Lead Agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines Section 15164 states that the Lead Agency or a Responsible Agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in 15162 calling for preparation of a subsequent EIR have occurred.

2.0 DESCRIPTION OF THE PROPOSED CHANGES TO THE PROJECT

2.1 Summary of Previously Approved Project

The 2011 FEIR analyzed the environmental impacts resulting from adoption of a Single Use Bag Reduction Ordinance that would prohibit the free distribution of single use carryout paper and plastic bags at the point of sale for all retail establishments in Alameda County except public eating establishments and nonprofit charitable reuse organizations, while allowing the distribution of compliant single use paper bags or reusable bags for a charge of at least 10 cents. The 2011 FEIR recognized that compliant reusable bags may include a thicker more durable plastic bag.

The ACWMA adopted a limited version of the Single Use Bag Reduction Ordinance analyzed in the 2011 FEIR that applied only to the following categories of retail establishments in the County:

- (1) Within 2012 Covered Jurisdictions: A full-line, self-service retail store with gross annual sales of two million dollars (\$2,000,000), or more, that sells a line of dry grocery, canned goods, or nonfood items and some perishable items;
- (2) Within 2012 Covered Jurisdictions: A store of at least 10,000 square feet of retail space that generates sales or use tax pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law (Part 1.5 (commencing with Section 7200) of Division 2 of the Revenue and Taxation Code) and that has a pharmacy licensed pursuant to Chapter 9 (commencing with Section 4000) of Division 2 of the Business and Professions Code; or
- (3) Within 2012 Covered Jurisdictions: A drug store, pharmacy, supermarket, grocery store, convenience food store, foodmart, or other entity engaged in the retail sale of goods that include milk, bread, soda, and snack foods, including those stores with a Type 20 or 21 license issued by the Department of Alcoholic Beverage Control.

With the specifications listed above, the adopted ordinance is currently applicable to roughly 1,300 of the approximately 10,300 retail establishments located in both incorporated and unincorporated areas in the County.

2.2 Proposed Changes to the Approved Project

The ACWMA proposes to modify the ordinance to apply to all retail establishments, regardless of size (as evaluated in the 2011 FEIR initially), as well as public eating establishments (which were not evaluated in the 2011 FEIR). With the new proposed language, the modified ordinance would apply to all retail establishments listed below:

- (1) Within 2016 Covered Jurisdictions on and after May 1, 2017: The stores listed in sections 2.1 (1), (2) and (3) above and any other commercial establishment operating from a permanent enclosed structure that sells perishable or nonperishable goods including, but not limited to, clothing, food and personal items directly to a customer; and
- (2) Within 2016 Covered Jurisdictions on and after November 1, 2017: Any Public Eating Establishment.

“Public Eating Establishment” means a restaurant, take-out food establishment or other business (including, but not limited to, food sales from vehicles or temporary facilities open to the public) that receives 90% or more of its revenue from the sale of prepared and ready-to-consume foods and/or drinks to the public.

The modifications to the ordinance would effectively expand its applicability to include all of the roughly 10,300 retail establishments and 4,000 public eating establishments in Alameda County. Public eating establishments would not be required to charge for paper bags distributed to customers, but would be required to charge at least ten cents for any reusable bag.

3.0 NEW INFORMATION

Subsequent to adoption and implementation of the ordinance, data was collected by the ACWMA to determine its effectiveness. To assess consumer behavior change, ACWMA staff conducted visual observations of customers at a sample of affected retail stores before and after the ordinance went into effect. Staff observed shoppers leaving retail stores for one hour and counted the number and type of bags, or lack of a bag, that customers used to carry their purchases. Observations were made at 17 stores for the years 2012 (pre-ordinance) through 2015 (post-ordinance). The stores included a variety of store types such as grocery, pharmacy, convenience and big box stores throughout Alameda County. As shown in Table 3.0-1 below, contrary to the assumption in the 2011 FEIR that single use paper bag use could increase substantially as a result of the ordinance, the surveys found that the use of single use paper bags increased only slightly (4.9 percent) in 2013, and returned to pre-ordinance levels by 2015. Additionally, the use of cloth or cloth-like reusable bags steadily increased each year after implementation of the ordinance, reaching a 210 percent increase in 2015 compared to pre-ordinance levels. The percentage of customers utilizing no bag followed a similar pattern, increasing by 280 percent by 2015.

Year	Single Use Plastic Bags	Single Use Paper Bags	Cloth-Like Reusable Bags	No Bag
2013	- 100%	+ 4.9%	+ 151%	+ 157%
2014	- 100%	+ 2.4%	+ 190%	+ 199%
2015	- 100%	+/- 0%	+ 210%	+ 280%

To measure change in bag purchasing activities by affected stores, ACWMA staff collected data from five different types of large and small “chain” stores with a presence in Alameda County for the years 2012 through 2015. Chain stores were comprised of a variety of store types: pharmacy, grocery, gas station markets, and big box stores. Purchasing data for an average of 70 stores across the five chain stores was compiled for each given year. As shown in Table 3.0-2, below, stores surveyed ceased purchasing single use plastic bags after 2012, when the ordinance was implemented. Additionally, contrary to the assumption in the 2011 FEIR that single use paper bag use could increase as a result of the ordinance, purchases of single use paper bags by stores actually decreased after implementation of the ordinance, indicating a reduction in demand from customers.

Year	Single Use Plastic Bags	Single Use Paper Bags
2012 (Pre-Ordinance)	36,802,300	13,173,800
2013	0	8,334,000
2014	0	7,853,059
2015	0	8,117,721

While the data on customer behavior and store purchasing patterns runs contrary to the assumptions in the 2011 FEIR regarding the potential negative consequences of the ordinance, other data collected by the ACWMA indicates that some of the positive outcomes of the ordinance assumed in the 2011 FEIR have come to pass. For example, the ACWMA partnered with the Alameda Countywide Clean Water Program to conduct an Alameda Countywide Storm Drain Trash Monitoring and Characterization Study. One of the goals of the study was to assess the effectiveness of the ordinance by evaluating the rate at which plastic bags were observed in storm drains fitted with storm drain capture devices prior to and after the ordinance became effective. The number of bags observed during this study (conducted in 2014) was significantly less than the number observed in a similar 2011 study conducted for the Bay Area Stormwater Management Agencies Association (BASMAA). Plastic bags found in storm drains decreased by roughly 44 percent, indicating that the ordinance has been successful in reducing single use plastic bag litter.

The results described above are corroborated by data collected in the nearby City of San Jose, which implemented a similar bag reduction ordinance in 2012. Litter surveys demonstrated a reduction in bag litter of approximately 62 percent in the storm drain system, 60 percent in the creeks and rivers, and 59 percent in City streets and neighborhoods, when compared to data collected prior to implementation of the ordinance. Observational surveys of store customers showed that reusable bag use increased greatly following the implementation of the ordinance, from almost four percent of bags observed to approximately 62 percent of bags observed. In addition, the percentage of customers that chose not to use a bag, and instead carry items by hand, more than doubled. The overall impact was that the average number of single-use bags used per customer decreased from three bags to 0.3 bags per visit following the implementation of the ordinance. Results from store observations reflect that the ordinance has had the intended effect of reducing the use of single-use bags.^{2,3}

Based on the real-world outcomes of the bag reduction ordinances in Alameda County and the City of San Jose, where the use of single use plastic bags was essentially eliminated in affected retail establishments, the use of single use paper bags did not increase substantially, and the percentage of customers utilizing reusable bags or no bag at all increased dramatically, it can be reasonably inferred that the positive impacts identified in the 2011 FEIR resulting from the elimination of plastic bags in the County were achieved, while the negative impacts identified in the 2011 FEIR resulting from a potential increase in the use of paper bags were largely avoided.

² City of San Jose. Memorandum to Transportation and Environment Committee – Subject: Bring Your Own Bag Ordinance Implementation Results and Actions to Reduce EPS Foam Food Ware. November 20, 2012. Available at: http://www3.sanjoseca.gov/clerk/CommitteeAgenda/TE/20121203/TE20121203_d5.pdf.

³ City of San Jose, Memorandum to Honorable Mayor and City Council – Subject: Amendment to the Single-Use Carryout Bag Regulations. September 12, 2013. Available at: <http://sanjoseca.gov/DocumentCenter/View/21329>.

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED CHANGES TO THE PROJECT

The discussion below describes the environmental impacts of the modified project, as they compare with the impacts of the previously evaluated project in the 2011 FEIR and the approved project, which was a limited version of the project evaluated in the 2011 FEIR. This Addendum only addresses those resource areas that would be potentially negatively affected by the proposed changes to the previously evaluated project and limited-scale approved project.

The negative environmental effects of the Single Use Bag Reduction Ordinance are primarily associated with a potential increase in paper bag manufacturing, transport, and disposal, and the positive effects are associated with a reduction in plastic bag manufacturing, transport, and disposal, including litter. The revisions to the project would have no effect or would result in a reduction in impacts in regards to the following environmental issues, either because the impact area is not affected by an increase in paper bag use, or because a further reduction in plastic bag use would have beneficial effects:

- Aesthetics
- Agricultural and Forestry Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Land Use
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation

Impacts in these areas would be consistent with those disclosed in the 2011 FEIR, and no further discussion is warranted.

The revised project expands the number of establishments (i.e. public eating establishments) subject to the Single Use Bag Reduction Ordinance, resulting in a potential increase in the distribution of single use paper bags in lieu of single use plastic bags in the County. This Addendum, therefore, focuses on the potential negative effects of an increase in paper bag usage compared to the analysis in the 2011 FEIR, and evaluates the impacts of the revised project in regards to the following environmental issues:

- Air Quality
- Biological Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Transportation
- Utilities and Service Systems
- Energy
- Cumulative Impacts

4.0.1 Methodology

To analyze the environmental impacts of the Single Use Bag Reduction Ordinance, the 2011 FEIR relied on estimates of pre-ordinance usage of single use paper and plastic bags, then applied data from other jurisdictions that previously implemented bag reduction ordinances, as well as survey results from local residents, to estimate the change in bag usage that would occur as a result of the ordinance. Data from various scientific studies on the relative environmental impacts related to the

manufacture, distribution, and disposal of individual paper, plastic, and reusable bags was then applied to the projected bag usage totals to help determine the environmental impacts of the proposed ordinance compared to existing conditions.

The 2011 FEIR estimated that, prior to the ordinance, approximately 763,993,000 single use plastic bags and 104,181,000 single use paper bags were distributed annually in Alameda County. Based on data from other jurisdictions and survey results from local residents, the 2011 FEIR estimated that the proposed ordinance would result in 65 percent of people using a reusable bag or no bag at retail establishments, while 35 percent would pay the 10 cent charge for a paper bag. It was also assumed that public eating establishments and nonprofit charitable reuse organizations accounted for five percent of the overall number of single use bags distributed in the County. Since those establishments would be exempt from the ordinance, it was assumed that five percent, or 38,200,000, of the 763,993,000 single use plastic bags distributed annually in the County would continue to be distributed after implementation of the ordinance. Using these assumptions, the 2011 FEIR estimated that the ordinance would result in an annual reduction in the distribution of single use plastic bags of 725,793,000 (rounded to 726 million in the 2011 FEIR text). The 2011 FEIR also estimated that the ordinance would result in a maximum annual increase in the distribution of single paper bags of up to 101,634,000 (rounded to 102 million in the 2011 FEIR text).

As described previously, although the ACWMA ultimately adopted a Single Use Bag Reduction Ordinance that applied to a limited number of retail establishments in the County, the 2011 FEIR analyzed the environmental impacts resulting from an ordinance that applied to all retail establishments. Therefore, the impacts of the proposed modification to the ordinance to expand its applicability to all retail establishments in the County were analyzed in the 2011 FEIR. As shown by the data collected after implementation of the ordinance (refer to Section 3.0, *New Information*), the analysis in the 2011 FEIR represents an overly conservative assessment of impacts resulting from the ordinance in that it assumed a substantial increase in the usage of single use paper bags of 98 percent, which has not occurred. The 2011 FEIR, therefore, fully analyzed the environmental impacts that could result from the proposed expansion of the ordinance to cover all retail establishments in the County, and no further analysis is required in this area.

The 2011 FEIR did not, however, analyze the environmental impacts of a Single Use Bag Reduction Ordinance that would apply to public eating establishments. The analysis in this Addendum, therefore, focuses on potential impacts associated with a change in the nature of bag usage at public eating establishments in Alameda County.

Unlike retail establishments covered by the existing ordinance, under the proposed ordinance, public eating establishments would not be required to charge a 10 cent fee for single use paper bags distributed to customers. Additionally, the nature of purchases at public eating establishments differs from those at retail establishments in that takeout food is often bagged either prior to the customer's arrival or in the back of the house, and customers might be more averse to using reusable bags for freshly prepared food out of concerns that the food might spill and soil the bag. The analysis in this Addendum, therefore, conservatively assumes that the proposed modification to the ordinance would result in a replacement of the use of plastic bags to the use of paper bags in public eating establishments in the County at a 1:1 ratio. As described previously, the 2011 FEIR assumed that public eating establishments and nonprofit charitable reuse organizations, which were exempt from the proposed ordinance, accounted for five percent of pre-

ordinance single use plastic bag distribution. To be conservative, this Addendum assumes that the entire five percent, or 38,200,000 bags annually, is attributable to public eating establishments, and that the proposed modification to the ordinance would result in a reduction of 38,200,000 single use plastic bags along with a corresponding increase of 38,200,000 single use paper bags distributed annually in the County. This assumption is likely overly conservative because less than 20 percent of the public eating establishments in the County are take-out establishments that regularly utilize single use bags to package food given to customers. The remainder of the public eating establishments are sit-down restaurants where single use bags are utilized much less frequently. Additionally, some of the take-out establishments already utilize single use paper bags as the primary means of packaging, and would not increase their use of single use paper bags as a result of the proposed modifications to the ordinance.

The change in bag usage associated with the proposed modifications to the ordinance described above was not analyzed in the 2011 FEIR, and the environmental impacts that may result are discussed below. The analysis utilizes the same methodologies and source materials that were used in the 2011 FEIR to determine impacts on a per-bag basis, where applicable.

4.1 AIR QUALITY

Air quality impacts related to carryout bags include the release of emissions during the manufacturing, transport, and disposal processes. Various life cycle assessments (LCAs) of shopping bags have been completed in support of bag regulation policies worldwide, and many of them were consulted during the preparation of the 2011 FEIR. Most LCAs try to account for air emissions during all stages of product life, from product creation to disposal. While LCAs do not have consistent methodologies, and frequently use assumptions that differ from each other, and from local conditions, they provide a useful means to quantify emissions associated with any increase in the use of single use paper bags. Based on data from LCAs and the projected changes in bag usage resulting from the proposed ordinance, the 2011 FEIR estimated that the project (as applied to all retail establishments) could result in overall annual reductions in emissions of nitrous oxides (NO_x) by seven tons and carbon monoxide (CO) by 40 tons, and an overall annual increase in emissions of sulfur oxides (SO_x) by 24 tons, all of which are classified as criteria pollutants by the US EPA.

The emissions resulting from the project would occur in the locations where paper bags are manufactured, along roadways on which they are transported, and at facilities where they are recycled or disposed of, all of which are dispersed over large geographic areas and multiple air basins. As a result, the 2011 FEIR made the following determination regarding air quality impacts of the proposed ordinance:

Impact AQ-3: Although an increase in certain air quality emissions from increased paper bag manufacturing could occur as a result of the ordinance, these emissions would be dispersed throughout the country in the various locations where paper bags are manufactured. There is no evidence to suggest these emissions would occur in any one location in amounts that would conflict with or obstruct implementation of an applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, or result in a

cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors. (Less Than Significant Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant air quality impacts than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

Based on data from LCAs utilized in the 2011 FEIR, under this scenario, accounting for the corresponding decrease in single use plastic bag distribution, emissions of SO_x, CO, and NO_x associated with manufacturing, transporting, and disposing of paper bags could all increase compared to what was assumed in the 2011 FEIR. SO_x emissions could increase by 23 tons for a net increase of 47 tons, CO emissions could increase by two tons for a net decrease of 38 tons, and NO_x emissions could increase by nine tons for a net increase of two tons.

Despite the potential increases in emissions described above, the conclusion of the 2011 FEIR would still apply to the modified ordinance even under this extremely conservative scenario, since there is no evidence to suggest these emissions would occur in any one location in amounts that would conflict with or obstruct implementation of an applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors.

4.2 BIOLOGICAL RESOURCES

The 2011 FEIR determined that an increase in paper bag use resulting from the ordinance could result in an increase in trees cut down for virgin material to manufacture the paper bags. Although most trees used for paper bag manufacturing are grown for the purpose of harvesting, an increase in paper bag demand in Alameda County might cause trees to be harvested sooner than they would otherwise have been used. The plantations where these trees are harvested, however, are replanted and new trees grown to replace them. While the short term loss of trees is a negative impact, this increase is a relatively minor increase in wood used for commercial paper manufacturing, should the increased demand in the County occur. The habitat loss and any associated impacts to biological resources resulting from this incremental addition to tree removal would be short term, relatively minor, and would not be a significant impact. For these reasons, the 2011 FEIR reached the following conclusion:

Impact BIO-4: Any increased tree removal resulting from an increased use of paper bags would not result in significant biological resources impacts based on the thresholds identified at the beginning of this section. (Less Than Significant Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant impacts to biological resources than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

If significant additional paper bag usage did occur as a result of adding public eating establishments to the affected store set, additional tree removal for paper bag manufacturing may occur. However, trees utilized in commercial paper manufacturing are primarily grown for the purpose of harvesting, and are replanted with replacement trees. As described in the 2011 FEIR, the habitat loss and any

associated impacts to biological resources resulting from this incremental addition to tree removal would be short term, relatively minor, and would not be a significant impact.

4.3 GREENHOUSE GAS EMISSIONS

The 2011 FEIR determined that, even using the most conservative assumptions, there could be a net annual reduction in greenhouse gas emissions of 11,000 tons of CO₂e compared to existing conditions with the reduction in plastic bag use and the anticipated increase in paper bag use, and made the following impact determination:

Impact GHG-3: The proposed ordinance would result in a net reduction in greenhouse gas emissions related to the manufacture and use of carryout bags. (Beneficial Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant impacts than those identified in the 2011 FEIR, which found that the project would result in a net reduction in greenhouse gas emissions. **[Same Impact as Approved Project (Beneficial Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use will increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments. This could result in an increase in greenhouse gas emissions of 2,000 tons of CO₂e per year compared to the previously evaluated project. The project as a whole, however, would still result in a net decrease in greenhouse gas emissions of 9,000 tons of CO₂e per year compared to conditions without the ordinance in effect.

4.4 HYDROLOGY AND WATER QUALITY

The paper bag manufacturing process requires more water than the plastic bag manufacturing process. As a result, the 2011 FEIR determined that the ordinance could result in an increased use of fresh water, should an increase in paper bag use occur. This increase in water use would likely occur at various pulp and paper manufacturing plants that would supply the bags that might be sold in Alameda County. It is not known where these plants are located, but they are likely dispersed throughout the western U.S., if not the entire U.S. and parts of Canada. Paper manufacturing plants that require substantial quantities of water are typically located in areas that have appropriate water supplies. Modern plants reuse incoming water multiple times, according to representatives of the paper industry, and clean it up between uses and prior to discharge. An incremental increase in water use at various paper plants, therefore, would not be likely to result in a significant environmental impact.

The 2011 FEIR also determined that incremental increases in water quality impacts would not result in a significant impact at paper bag manufacturing plants that meet current national Clean Water Act standards for water discharged back into the environment, and the following conclusion was reached:

Impact HYD-4: Incremental and temporary increases in water quality impacts related to increased paper manufacturing, should they occur as a result of this ordinance, would not be significant at a paper bag manufacturing plant that meets current national Clean Water Act standards for water discharged back into the environment. (Less Than Significant Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant hydrology and water quality impacts than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

If significant additional paper bag usage did occur as a result of adding public eating establishments to the affected store set, the project could result in additional water usage at paper manufacturing plants. This increase would represent a negligible percentage of overall paper manufactured in the U.S. Given this negligible increase in the amount of water usage, the fact that the use of water would be distributed throughout the western United States, and that paper manufacturing plants would adhere to Clean Water Act standards for water discharged back into the environment, the proposed modifications to the ordinance would result in a less than significant impact on water supply and water quality.

4.5 TRANSPORTATION

The 2011 FEIR determined that the proposed ordinance could lead to an increase in the frequency of truck trips needed to deliver a greater number of single use paper carryout bags to Alameda County. Any increase in truck trips related to paper bag delivery would be at least partially offset by a substantial reduction in truck trips related to single use plastic carryout bag delivery, and any net increase in truck traffic resulting from the change in bag use would be negligible.

The 2011 FEIR consulted three EIRs completed for similar single use bag reduction ordinances in the Cities of San Jose and Santa Monica, and the County of Los Angeles to determine the potential increase in truck trips that could result from the ordinance. Using the County of Los Angeles estimate, which was the most conservative, and adjusting the total to reflect the population of Alameda County, the 2011 FEIR determined that the proposed ordinance could result in approximately five new trucks trips per day. These trips would be spread throughout Alameda County.

In reality, since bags are delivered in mixed loads of merchandise, there would probably be no more truck trips necessary to deliver paper bags. Other mechanisms, such as including single use paper bags in deliveries more frequently or increasing routing efficiencies could be used.

For the purposes of this project, a transportation impact is considered significant if it does not conform to Alameda County's LOS standard. Project traffic impacts are measured against existing traffic volumes on the existing transportation roadway network in conformance with CEQA. The 2011 FEIR determined that, considered under the criteria of the County's LOS standard, any increased traffic generated by the proposed single use bag reduction ordinance would be minimal and would not exceed the established threshold required for preparing a Traffic Impact Analysis (*i.e.*, it would not generate a substantial increase in peak hour traffic), and that the project conforms to the County's transportation policies. The 2011 FEIR reached the following conclusion:

Impact TRANS-3: No significant increase in traffic would occur as a result of adoption of the proposed ordinance to reduce the use of single use bags in Alameda County. No significant impacts were identified to any element of the transportation system. (Less Than Significant Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant transportation impacts than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

If significant additional paper bag usage did occur as a result of adding public eating establishments to the affected store set, the project could result in an additional two truck trips per day, for a total of seven truck trips added to roadways in Alameda County as a result of the project. These minimal additional truck trips would not result in a significant impact.

4.6 UTILITIES AND SERVICE SYSTEMS

The analysis of the project's effects on Utilities and Service Systems in the 2011 FEIR focused on impacts to water supply and wastewater, stormwater and drainage, and solid waste. The effects of the proposed modification to the ordinance on water supply and wastewater are discussed in Section 3.4, above. The 2011 FEIR determined that the proposed ordinance would have a beneficial impact in the area of stormwater and drainage due to the reduction in plastic bag litter that would occur as a result of the project. The proposed modification to the ordinance would result in the same beneficial impact by removing even more plastic bags from the County that might end up as litter entering the storm drainage system.

In the area of solid waste, the 2011 FEIR determined that the project could have a negative effect related to an increase in paper bag usage. The paper bag lifecycle produces more solid waste than plastic bags, partly because more solid waste is produced during paper manufacture and partly because the bag creates a greater weight of solid waste at the end of its lifetime simply by being heavier than an equivalent plastic bag. As a result, the 2011 FEIR estimated that the ordinance

could lead to a slight increase in solid waste entering landfills and the County's recycling system in the form of paper bags. Paper bags, however, are more easily handled by the County's recycling system than plastic bags, and recycled paper bags offer a greater market value than recycled plastic bags, increasing the likelihood of post-consumer use. The 2011 FEIR determined that landfills and recycling facilities in the County have adequate capacity to accommodate a potential increase in paper bags being disposed of or recycled as a result of the ordinance, and reached the following conclusion:

Impact UTIL-3: The proposed ordinance would not result in any significant utilities and service systems impacts, based on the thresholds identified at the beginning of this section. (Less Than Significant Impact)

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant impacts to utilities and service systems than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

If significant additional paper bag usage did occur as a result of adding public eating establishments to the affected store set, the project could result in additional paper bags entering landfills or being processed in the County's recycling or composting system. This potential increase would be spread throughout various locations in the County, and no single landfill, composting, or recycling facility would receive a substantially greater amount of paper in relation to existing throughput. The existing solid waste system in the County has adequate capacity to accommodate the potential increase in paper bag disposal and recycling that could result from the proposed modification to the ordinance, and no new or modified facilities would be needed, resulting in a less than significant impact.

4.7 ENERGY

Based on the LCAs consulted in preparation of the 2011 FEIR, the life cycle of a single use paper bag requires more energy than that of a single use plastic bag. The 2011 FEIR determined that the proposed ordinance would result in a net reduction in energy use due to the presumed shift away from the use of single use bags in favor of reusable bags. Although reusable bags often require more energy to manufacture than both single use paper and plastic bags, when they are reused many times the result is a net reduction in energy use associated with the use of bags for carrying items out of retail establishments due to the number of single use bags, and their associated energy use, that are no longer needed.

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. The 2011 FEIR assumed an annual increase in the distribution of single use paper bags of up to 101,634,000, and analyzed the environmental impacts of such a scenario. Because this increase never materialized, and the corresponding negative impacts never occurred, the impacts associated with a potential increase of 38,200,000 single use paper bags resulting from the proposed modification to the ordinance would fall well within the impacts already identified in the 2011 FEIR. The proposed changes to the project, therefore, would not result in any new or more significant energy impacts than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

In addition to analyzing the environmental impacts associated with the proposed modifications to the ordinance assuming only a negligible increase in paper bag usage from the original ordinance, this addendum also considers the potential environmental impacts of the proposed modifications of the ordinance assuming paper bag use does increase. Applying the same conservative analytical scenario that was used in the 2011 FEIR, which assumed that post ordinance paper bag use would increase, an additional 38,200,000 increase in paper bags *could* occur as a result of the proposed modification to the ordinance to include public eating establishments.

If significant additional paper bag usage did occur as a result of adding public eating establishments to the affected store set, the project could lead to an increase in energy use associated with bag manufacture, transport, and disposal. Even with this increase, however, because of the decrease in energy usage associated with the reduction in the use of single use plastic bags, the ordinance as a whole would not result in the use of fuel or energy in a wasteful manner, nor would it result in a substantial increase in demand upon energy resources, resulting in a less than significant impact.

4.8 CUMULATIVE IMPACTS

At the time of preparation of the 2011 FEIR, many jurisdictions were considering adopting ordinances regulating the distribution of single use bags, but few ordinances had been adopted and implemented for a long enough period of time to determine the change in bag use behavior patterns that would result. The 2011 FEIR determined that negative environmental effects could conceivably occur if the cumulative effect of these various programs lead to a large increase in paper bag use compared to existing conditions, but did not identify significant cumulative impacts to which the project would contribute.

As described in Section 3.0 above, data collected throughout Alameda County after implementation of the ordinance shows that the project did not lead to the increase in paper bag usage that was assumed in the 2011 FEIR but did result in the anticipated reduction in single use plastic bag usage. In fact, the use of single use paper bags returned to pre-ordinance levels by 2015. Similar results were seen in the nearby City of San Jose, where a single use bag reduction ordinance resulted in a nearly complete elimination of single use plastic bags without a substantial increase in the use of paper bags.^{4,5} It can be inferred from this data that other bag reduction ordinances adopted in the Bay Area and throughout the State since the preparation of the 2011 FEIR achieved similar results. Potential cumulative impacts associated with a large increase in paper bag use, therefore, have not occurred.

Although the proposed modification to the ordinance could result in an increase in the use of single use paper bags, because of the relatively insubstantial increase in paper bags and the new information showing the 2011 FEIR significantly overestimated the cumulative increase in paper bag use, the modified project would not result in new or more significant cumulative impacts than those identified in the 2011 FEIR. **[Same Impact as Approved Project (Less Than Significant Impact)]**

⁴ City of San Jose. Memorandum to Transportation and Environment Committee – Subject: Bring Your Own Bag Ordinance Implementation Results and Actions to Reduce EPS Foam Food Ware. November 20, 2012. Available at: http://www3.sanjoseca.gov/clerk/CommitteeAgenda/TE/20121203/TE20121203_d5.pdf.

⁵ City of San Jose, Memorandum to Honorable Mayor and City Council – Subject: Amendment to the Single-Use Carryout Bag Regulations. September 12, 2013. Available at: <http://sanjoseca.gov/DocumentCenter/View/21329>.

5.0 CONCLUSION

Based on the above analysis and discussion, no substantive revisions are needed to the *Mandatory Recycling and Single Use Bag Reduction Ordinances FEIR*. No new significant impacts or impacts of substantially greater severity would result from the modified project because there have been no changes in circumstances in the project area that would result in new significant environmental impacts or substantially more severe impacts; and no new information has come to light that would indicate the potential for new significant impacts or substantially more severe impacts than were identified in the 2011 FEIR. Therefore, no further evaluation is required, and no Subsequent EIR is needed pursuant to State CEQA Guidelines Section 15162. An Addendum to the 2011 FEIR is the appropriate review document for the modified project, pursuant to Section 15164.

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