



**Waste Management Plan
for the Avion Project
San Diego, California**

Prepared for
Lennar
16465 Via Esprillo, Suite 150
San Diego, CA 92127

Prepared by
RECON Environmental, Inc.
1927 Fifth Avenue
San Diego, CA 92101
P 619.308.9333

RECON Number 8958
July 1, 2019

A handwritten signature in black ink, appearing to read "Nick Larkin".

Nick Larkin, Environmental Planner

TABLE OF CONTENTS

List of Abbreviated Terms.....	iii
1.0 Introduction	1
2.0 Existing Conditions.....	1
3.0 Proposed Conditions	5
4.0 Regulatory Framework.....	5
4.1 State Regulations	5
4.2 City of San Diego Requirements	6
5.0 Demolition, Grading, and Construction Waste.....	7
5.1 Demolition	7
5.2 Grading.....	7
5.3 Construction	7
5.4 Waste Diversion	8
6.0 Occupancy – Operational Waste.....	12
6.1 Waste Generation.....	12
6.2 Waste Reduction Measures	12
6.3 Exterior Storage	15
6.4 Organic Waste Recycling.....	16
7.0 Conclusion.....	16
7.1 Demolition, Grading, and Construction Waste.....	16
7.2 Occupancy – Operational Waste	16
8.0 Overall Compliance.....	17
9.0 References Cited.....	17

FIGURES

1:	Regional Location.....	2
2:	Project Location on Aerial Photograph.....	3
3:	Planned Development Plan	4

TABLE OF CONTENTS (cont.)**TABLES**

1:	Total Project Square Footage	5
2:	Construction Waste Generation.....	7
3:	Construction Waste Diversion and Disposal by Material Type	9
4:	Total Waste Generated, Diverted, and Disposed of by Phase	11
5:	Occupancy Phase Annual Waste Generation.....	12
6:	Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development	15

ATTACHMENTS

1:	City of San Diego 2019 Construction & Demolition Recycling Facility Directory
2:	City of San Diego Waste Generation Factors – Occupancy Phase

List of Abbreviated Terms

AB	Assembly Bill
C&D	Construction and Demolition
City	City of San Diego
EPA	Environmental Protection Agency
ESD	Environmental Services Department
project	Avion Project
Subarea Plan EIR	Black Mountain Ranch (Subarea I) Subarea Plan Environmental Impact Report
SWMC	Solid Waste Management Coordinator
WMP	Waste Management Plan

1.0 Introduction

The purpose of this Waste Management Plan (WMP) for the Avion Project (project) is to identify the solid waste impacts that would be generated by construction and operation of the project and to identify measures to reduce those impacts. Figure 1 shows the regional location of the project site. Figure 2 shows an aerial photograph of the project site and vicinity. Figure 3 shows the planned development plan.

The direct impact threshold of significance for projects in the city of San Diego is 1,500 tons of waste per year, which would likely occur when developments are over 1 million square feet. Projects that generate more than 60 tons of waste per year would have the potential to result in a cumulative impact on solid waste services and are required to prepare a WMP to demonstrate how the project would reduce solid waste impacts to below a level of significance.

The WMP consists of three sections corresponding to the progress of site development, which are the Grading Phase, the Construction Phase, and the Occupancy (post-construction) Phase. Each phase addresses the amount of waste that would be generated by project activities, waste reduction goals, and the recommended techniques to achieve the waste reduction goals. More specifically, for each phase, the WMP includes the following:

- Tons of waste anticipated to be generated.
- Material/type and amount of waste anticipated to be diverted.
- Project features that would reduce the amount of waste generated.
- Project features that would divert or limit the generation of waste.
- Source separation techniques for waste generated.
- How materials shall be reused on-site.
- Name and location of recycling, reuse, or landfill facilities where waste shall be taken.

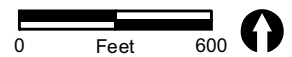
2.0 Existing Conditions

The project site consists of a 41.48-acre parcel of undeveloped land located in the northern part of the city of San Diego, approximately 1.2 miles west of Interstate 15 (Figure 1). Carmel Valley Road/Bernardo Center Drive is located approximately 0.6 mile to the north, and Black Mountain Road is located approximately 1.4 miles to the west. Heritage Bluffs, a new residential development currently under construction, abuts the northern edge of the property. Future access would be provided at the northeast corner of the project site via Winecreek Road. Land uses surrounding the site include a portion of the Black Mountain Open Space Park to the west, east, and south, and residential development and open space lands to the north (Figure 2).



 Project Location

FIGURE 1
Regional Location



- Project Boundary
- Heritage Bluffs Boundary



FIGURE 3
Planned Development Plan

3.0 Proposed Conditions

The project site was previously analyzed as Southeast Perimeter Parcel C in the Black Mountain Ranch (Subarea I) Subarea Plan Environmental Impact Report (96-7902) (Subarea Plan EIR). The project includes the construction of 84 detached multi-family residential units and associated infrastructure (i.e., road, sewer, water, etc.), as shown in Figure 3. The proposed development would be consistent with the land use identified for the project site in the Subarea Plan EIR. The project includes four different housing product types: 20 detached multi-family, 2,289-square-foot residential units; 20 detached multi-family, 2,303-square-foot residential units; 22 detached multi-family, 2,446-square-foot residential units, and 22 detached multi-family, 2,479-square-foot residential units. As shown in Table 1, the project would construct a total of 200,190 square feet of detached multi-family residential development based on this mix of product types.

Table 1 Total Project Square Footage			
Product Type	Square Footage of Product Type	Number of Units	Total Square Footage of Product Type
Product 1	2,289	20	45,780
Product 2	2,303	20	46,060
Product 3	2,446	22	53,812
Product 4	2,479	22	54,538
Total		84	200,190

Project density on-site would be less than what was assumed and analyzed for the property under the Subarea Plan EIR, and the project would transfer the remaining density (19 market-rate units and 14 affordable housing units) to the Northern Village at Black Mountain Ranch, pursuant to the density transfer allowances established by the Subarea Plan.

4.0 Regulatory Framework

4.1 State Regulations

The California state legislature has enacted several bills intended to promote waste diversion. In 1989, Assembly Bill (AB) 939, the Integrated Waste Management Act—as modified in 2010 by Senate Bill 1016—mandated that all local governments reduce disposal waste in landfills from generators within their borders by 50 percent by the year 2000 (State of California 1989 and 2010).

AB 341, approved October 2011, sets a policy goal of 75 percent waste diversion by the year 2020 (State of California 2011). This bill also created a mandatory commercial recycling requirement that would hold local jurisdictions responsible for implementing and to be in compliance with the 75 percent diversion rate through outreach and monitoring programs. Senate Bill 1383, approved in September 2016, established targets to reduce the amount of organic waste that is landfilled from the 2014 level by 50 percent by 2020, and by 75 percent by 2025. The law grants CalRecycle the regulatory authority required to achieve

the organic waste disposal reduction targets. Senate Bill 1383 granted CalRecycle the regulatory authority to achieve these organic waste disposal reduction targets, who have been working to develop regulations necessary to implement the new law.

4.2 City of San Diego Requirements

All landfills within the San Diego region are approaching capacity and are due to close within the next 3 to 20 years. In compliance with the state policies, the City of San Diego (City) Environmental Services Department (ESD) developed the Source Reduction and Recycling Element, which describes local waste management policies and programs. The City's Recycling Ordinance, adopted November 2007, requires on-site recyclable collection for residential and commercial uses (City of San Diego 2007a). The ordinance requires recycling of plastic and glass bottles and jars, paper, newspaper, metal containers, and cardboard. The focus of the ordinance is on education, with responsibility shared between the ESD, haulers, and building owners and managers. On-site technical assistance, educational materials, templates, and service provider lists are provided by the ESD. Property owners and managers provide on-site recycling services and educational materials annually and to new tenants. Strategies for compliance are discussed in Section 6.2, Waste Reduction Measures.

The City's Refuse and Recyclable Materials Storage Regulations, adopted December 2007, indicate the minimum exterior refuse and recyclable material storage areas required at residential and commercial properties (City of San Diego 2007b). These are intended to provide permanent, adequate, and convenient space for the storage and collection of refuse and recyclable materials; encourage recycling of solid waste to reduce the amount of waste material entering landfills; and meet the recycling goals established by the City Council and mandated by the State of California. These regulations are discussed further in Section 6.3, Exterior Storage.

In July 2008, the Construction and Demolition (C&D) Debris Deposit Ordinance was adopted by the City (City of San Diego 2008). The ordinance requires that the majority of construction, demolition, and remodeling projects requiring building, combination, or demolition permits pay a refundable C&D Debris Recycling Deposit and divert at least 50 percent of their waste by recycling, reusing, or donating reusable materials. The required diversion rate is currently proposed for an increase to 65 percent. The ordinance is designed to keep C&D materials out of local landfills. Requirements are discussed further in Section 5.4.2, Contractor Education and Responsibilities.

In December 2013, the City Council adopted the Zero Waste Objective, implementing the 75 percent diversion of waste target goal from landfills by the year 2020 and zero waste by 2040. An additional City target of 90 percent diversion by 2035 is proposed in the City's Climate Action Plan.

5.0 Demolition, Grading, and Construction Waste

According to the Waste Composition Study prepared by the City's ESD (City of San Diego 2000), C&D waste constituted the largest single component of disposed waste in San Diego. Of the 1,680,211 tons of waste disposed in 1999, C&D waste comprised of 35 percent (586,157 tons). By comparison, the second and third largest categories of waste materials were paper (21 percent, 356,578 tons) and organic waste (20 percent, 341,874 tons).

5.1 Demolition

The project site consists of vacant land with disturbed habitat. As such, no demolition activity would be required, and no demolition waste would be generated.

5.2 Grading

Project construction would require 296,000 cubic yards of cut and 296,000 cubic yards of fill, resulting in a net balance of soils on the project site. Therefore, no net export of soil would occur from the project.

Although no structures currently exist on the site, there is vegetation present. Therefore, during the grading phase, green waste would be generated and source separated, then recycled as green waste at the Miramar Greenery facility at 5180 Convoy Street. Goals for this phase will be communicated to grading contractors through contract documents, the California Environmental Quality Act document, project conditions of approval that require implementation of WMP measures, and the Solid Waste Management Coordinator (SWMC) for the project.

5.3 Construction

As shown in Table 1 above, the project would construct a total of 209,390 square feet of detached multi-family residential development. The U.S. Environmental Protection Agency (EPA) (2009) provides an average generation rate of 4.39 pounds of construction waste per square foot for residential types of uses, which includes the project's 84 detached multi-family residential units. Table 2 shows how much project construction waste (439.4 tons) would be generated by this type of land use.

Table 2 Construction Waste Generation			
Land Use	Amount (Square Feet)	Generation Rate (pounds per square foot)	Tons Generated
Residential	200,190	4.39	439.4
Source: U.S. Environmental Protection Agency (2009)			

5.4 Waste Diversion

Implementing the City's 75 percent diversion of waste target goal adopted under the Zero Waste Objective requires a majority of waste to be handled at facilities other than landfills. There are two types of waste diversion: "mixed-debris diversion" and "source-separated diversion." Mixed-debris diversion is a method in which all material waste is disposed of in a single container for transport to a mixed C&D recycling facility. Under source-separated diversion, materials are separated on-site before transport to appropriate facilities that accept specific material types. Generally, a greater diversion rate is achieved under source-separated diversion, as facilities that accept mixed debris typically achieve 50 to 70 percent diversion, whereas single materials recyclers often achieve a nearly 100 percent diversion rate (City of San Diego 2013).

The project would implement source-separated diversion, and recyclable waste materials would be separated on-site into material-specific containers and diverted to an approved recycler selected from the City's ESD directory of facilities that recycle specific waste materials from construction and demolition (Attachment 1). These facilities achieve a 100 percent diversion rate for most materials with the exception of a 75 percent diversion rate for roof material.

Table 3 provides a breakdown of the 439.4 tons by anticipated types of material and provides the most likely handling facility and diversion method. As shown in Table 3, use of the source separation method for most of the materials types (where feasible) would result in the total diversion of approximately 377.8 tons; with only the 61.5 tons of trash/garbage being disposed of in the landfill.

Table 3
Construction Waste Diversion and Disposal by Material Type

Material Type	Estimated Waste (tons)	Percent Diverted ¹	Nearest Handling Facility ¹	Estimated Diversion (tons)	Estimated Disposal (tons)
Asphalt and Concrete	70.7	100%	Vulcan Carol Canyon Landfill and Recycle Site	70.7	0
Metals	100.6	100%	Allan Company Miramar Recycling	100.6	0
Brick/Masonry/Tile	30.0	100%	Vulcan Carol Canyon Landfill and Recycle Site	30.0	0
Clean Wood/Wood Pallets	16.6	100%	Miramar Greenery	16.6	0
Carpet, Padding/Foam	35.5	100%	DFS Flooring	35.5	0
Drywall	97.6	100%	EDCO Recovery & Transfer	97.6	0
Corrugated Cardboard	26.6	100%	Allan Company Miramar Recycling	26.6	0
Trash/Garbage	61.5	0%	Ramona Transfer Station and Buy Back Center	0	61.5
Total	439.4			377.8 86%	61.5 14%

NOTE: Totals may vary due to independent rounding.

¹City of San Diego ESD 2019 Certified C&D Recycling Facility Directory (see Attachment 1)

With implementation of the diversion-estimated calculations outlined in Table 3, it is estimated that approximately 86 percent of the waste generated during the construction phase of the project would be diverted to appropriate facilities for reuse. Thereafter, 61.5 tons (trash/garbage), equivalent to 14 percent of the total construction waste, would be required to be disposed of in the landfill.

5.4.1 Contractor Education and Responsibilities

In order to ensure that the anticipated diversion of waste would occur during project construction, the project would include the designation of a SWMC for the duration of project construction. The SWMC would ensure that all contractors and subcontractors are educated and trained to follow City waste diversion regulations and that procedures for waste reduction and recycling efforts are implemented. Specific responsibilities of the SWMC would include the following:

- Review the WMP at the preconstruction meeting, including the SWMC responsibilities.

- Invite City Environmental Services Department staff to the preconstruction meeting to discuss WMP measures to be implemented and to inspect facilities that would be used for waste management.
- Distribute the WMP to all contractors when they first begin work on-site and when training workers, subcontractors, and suppliers on proper waste management procedures applicable to the project.
- Work with the contractors to estimate the quantities of each type of material that would be salvaged, recycled, or disposed of as waste, then assist in documentation.
- Use detailed material estimates to reduce risk of unplanned and potentially wasteful material cuts.
- Review and enforce procedures for source-separated receptacles. Containers of various sizes shall:
 - Be placed in readily accessible areas that will minimize misuse or contamination.
 - Be clearly labeled with a list of acceptable and unacceptable materials, the same as the materials recycled at the receiving material recovery facility or recycling processor.
 - Contain no more than 10 percent non-recyclable materials, by volume.
 - Be inspected daily to remove contaminants and evaluate discarded material for reuse on-site.
- Review and enforce procedures for transportation of materials to appropriate recipients selected from ESD's directory of facilities that recycle C&D materials (see Attachment 1 for ESD's facility directory).
- Ensure removal of C&D waste materials from the project site at least once every week to ensure no over-topping of containers. The accumulation and burning of on-site construction, demolition, and land-clearing waste materials will be prohibited.
- Document the return or reuse of excess materials and packaging to enhance the diversion rate.
- Coordinate implementation of a "buy recycled" program to ensure that 20 percent of construction materials consist of green construction products, including incorporating mulch and compost into the landscaping. Achievement of this goal would include providing documentation of green construction products purchased for the project construction and their percentage of the overall construction materials.
- Ensure that landscaping activities during construction would solely utilize post-consumer soil amendment materials. Use of post-consumer soil amendment materials would count towards the goal of 20 percent of construction materials consisting of green construction products.

- Coordinate implementation of solid waste mitigation with other requirements such as storm water requirements, which may include specifications such as the placement of bins to minimize the possibility of runoff contamination.
- Ensure that solid waste accumulated by the street sweeper during construction would be placed in the dumpster labeled for “waste” and is disposed of at the landfill. Each load of street sweeper waste shall be documented detailing hauler name, quantity, date, and location of disposal with records available for inspection during regular business hours at the project manager office and provided to the City Solid Waste Local Enforcement Agency within 48 hours when requested.

The SWMC would ensure that the project meets the following state law and City Municipal Code requirements. Adjustments would be made as needed to maintain conformance:

- The City's C&D Debris Diversion Deposit Program, which requires a refundable deposit based on the tonnage of the expected recyclable waste materials as part of the building permit requirements (City of San Diego 2008).
- The City's Recycling Ordinance, which requires that collection of recyclable materials is provided (City of San Diego 2007a).
- The City's Storage Ordinance, which requires that areas for recyclable material collection must be provided (City of San Diego 2007b).
- The name and contact information of the waste contractor provided to ESD at least 10 days prior to the start of any work and updated within 5 days of any changes.

5.4.2 Total Diversion

With the oversight of the SWMC, the project would meet City waste diversion goals. Table 4 summarizes the amount of waste estimated to be generated and diverted by each phase of the project. Of the 439.4 tons estimated to be generated, 377.8 tons would be diverted, primarily through source separation. This would result in the diversion and reuse of 86 percent of the waste material generated from the project from the landfill, which would exceed the City's current 75 percent waste diversion goal.

Table 4 Total Waste Generated, Diverted, and Disposed of by Phase			
Phase	Tons Generated	Tons Diverted	Tons Disposed
Demolition	0	0	0
Grading/Landscape Debris	0	0	0
Construction	439.4	377.8 (86%)	61.5 (14%)
Total	439.4	377.8 (86%)	61.5 (14%)

6.0 Occupancy – Operational Waste

Unlike grading and construction, occupancy is an ongoing process. Therefore, it requires an ongoing plan to manage and reduce waste in order to meet the waste reduction goals established by local and state policy. All of the units (84 detached multi-family residential) would be served by the City during occupancy of the project.

The City operates the Miramar Landfill, which is currently the only municipal landfill in the City. According to the City Municipal Code (San Diego Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0701), the Miramar Landfill is expected to close and preserving landfill capacity is a realistic concern. City efforts have made progress, but studies have shown that there is still room for improvement through additional recycling efforts. Approximately 21 percent of the waste generated in the city of San Diego and delivered for landfill disposal is paper and 16 percent is compostable organics, all of which could be diverted from landfill disposal.

6.1 Waste Generation

The estimated annual waste to be generated during occupancy of the project is based on the expected waste generation was calculated using the City ESD Waste Generation Factors for a residential unit (Attachment 2). The estimated solid waste generation rate for residential units is 1.6 tons/year/unit. The estimated annual amount in tons is calculated below:

$$84 \text{ dwelling units} \times \frac{1.6 \text{ tons}}{\text{year/unit}} = 134.4 \text{ tons/year/unit}$$

Table 5 shows the amount of tons that would be generated during the occupancy phase. The total generation of waste for the proposed 84 detached multi-family residential units equates to approximately 134.4 tons per year based on a total of 84 dwelling units. As discussed in the following section, Waste Reduction Measures, an ongoing plan to manage waste disposal in order to meet state and City waste reduction goals would be implemented by the applicant (or applicant's successor in interest).

Table 5 Occupancy Phase Annual Waste Generation						
Land Use	Dwelling Units	Generation Rate ¹	Waste Generated (tons)	Percent Diverted	Tons Diverted	Tons Disposed
Residential	84	1.6 tons/year/unit	134.4	40%	53.8	80.6
SOURCE: Attachment 2.						

6.2 Waste Reduction Measures

According to the City Waste Management Guidelines (City of San Diego 2013), compliance with the City's Recycling Ordinances is expected to provide a minimum recycling service volume of 40 percent for large complexes. Therefore, waste anticipated to be diverted during the occupancy phase would be approximately 53.8 tons per year. The remaining 80.6

tons per year would still exceed the 60 ton-per-year threshold of significance for a cumulative impact on solid waste services in the city (City of San Diego 2016).

To mitigate for the cumulative impact on solid waste, the applicant (or applicant's successor in interest) shall be responsible for implementing a long-term WMP, as outlined below, which would ensure that the development meets or exceeds the requirements set forth in AB 939 and AB 341. This program shall include recyclable collection services required by and in accordance with the Recycling Ordinance, as well as providing exterior storage space for refuse, recyclable materials, and a means of handling landscaping and green waste materials. Specific program measures shall include the following:

- For commercial facilities, which receive solid waste collection services from a franchisee, the responsible person shall provide on-site recycling services to occupants as required by the dates prescribed in the City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0707a.
- For multi-family residential facilities, which receive solid waste collection services from a franchisee, the responsible person shall provide on-site recycling services to occupants as required by the dates prescribed in the City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0706c.
- Occupants of commercial facilities, which receive solid waste collection services from a franchisee, shall participate in a recycling program by separating recyclable material from other solid waste and depositing the recyclable materials in the recycling container provided by the Franchisee or Recyclable Materials Collector.
- Occupants of multi-family residential facilities which receive solid waste collection services from a franchisee, shall participate in a recycling program by separating recyclable material from other solid waste and depositing the recyclable materials in the recycling container provided by the Franchisee or Recyclable Materials Collector (City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0706d).
- At a minimum, commercial facilities' recycling services would include the following (City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0707c):
 1. Collection of recyclable materials as frequently as necessary to meet demand.
 2. Collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers.
 3. Collection of other recyclable materials for which markets exist, such as scrap metal, wood pallets, and food waste.
 4. Utilization of recycling receptacles which comply with the standards in the Container and Signage Guidelines established by the City ESD or its successor.
 5. Designated recycling collection and storage areas.

6. Signage on all recycling receptacles, containers, and/or enclosures which comply with the standards described in the Container and Signage Guidelines established by the City ESD or its successor.
- At a minimum, multi-family residential facilities' recycling services would include the following (City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0706e):
 1. Collection of recyclable materials at least two times per month.
 2. Collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers.
 3. Utilization of recycling receptacles which comply with the standards in the Container and Signage Guidelines established by the City ESD or its successor.
 4. Designated recycling collection and storage areas.
 5. Signage on all recycling receptacles, containers, chutes, and/or enclosures which comply with the standards described in the Container and Signage Guidelines established by the City ESD or its successor.
 - Occupant Education – For commercial facilities, the responsible person shall ensure that occupants are educated about the recycling services as follows (City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0707d):
 1. Information, including the types of recyclable materials accepted, the location of recycling containers, and the occupants' responsibility to recycle, shall be distributed to all occupants annually.
 2. All new occupants shall be given educational information on recycling programs and procedures and instructions upon occupancy.
 3. All occupants shall be given information and instructions upon any change in recycling service to the facility.
 - Occupant Education – For multi-family residential facilities, the responsible person shall ensure that occupants are educated about the recycling services as follows (City Municipal Code, Chapter 6, Article 6, Division 7, Section 66.0706f):
 1. Information, including the types of recyclable materials accepted, the location of recycling containers, and the occupants' responsibility to recycle, shall be distributed to all occupants annually.
 2. All new occupants shall be given information and instructions upon occupancy.
 3. All occupants shall be given information and instructions upon any change in recycling service to the facility.

Implementation of a project-specific waste management program would reduce the project's cumulative portion of impacts on solid waste, as, per the City's California Environmental Quality Act Significance Determination Thresholds, the implementation of a WMP would

ensure that the overall waste produced is reduced sufficiently to comply with waste reduction targets established in the Public Resources Code (City of San Diego 2016).

6.3 Exterior Storage

This WMP follows the City's Municipal Code on-site refuse and recyclable material storage space requirements (City of San Diego 2007b). Table 6 shows the exterior storage area requirements for residential developments.

Table 6 Minimum Exterior Refuse and Recyclable Material Storage Areas for Residential Development			
# of units	Minimum Refuse Area (square feet)	Minimum Recyclable Area (square feet)	Total Storage Area (square feet)
2–6	12	12	24
7–15	24	24	48
16–25	48	48	96
26–50	96	96	192
51–75	144	144	288
76–100	192	192	384
101–125	240	240	480
126–150	288	288	576
151–175	336	336	672
176–200	384	384	768
200+	384 plus 48 square feet for every 25 dwelling units above 201	384 plus 48 square feet for every 25 dwelling units above 201	768 plus 96 square feet for every 25 dwelling units above 201
Project (84 units)	192	192	384
SOURCE: City of San Diego Municipal Code, Chapter 14, Article 2, Division 8: Refuse and Recyclable Material Storage Regulations, Section 142.0820, Table 142-08B.			

Because the project would include a total of 84 dwelling units, a minimum of 192 square feet of refuse storage area and a minimum of 192 square feet of recyclable material storage area would be required. The total exterior refuse and recyclable material storage requirement for the project would be 384 square feet.

During occupancy, the expected annual waste to be generated from the proposed 84 detached multi-family residential units would be approximately 134.4 tons, based on a residential waste generation rate of 1.6 tons per year per square foot. An ongoing plan to manage waste disposal in order to meet state/city certification waste reduction goals shall be implemented by the property manager through this WMP. Included in this program shall be the provision of a minimum of 192 square feet of exterior refuse storage area and 192 square feet of exterior recyclable material storage area, as required by the City's Municipal Code. The project would meet this requirement by each individual detached multi-family residential unit providing its own 2.29 square feet of refuse storage and 2.29 square feet of recycling storage within their garages. Refuse and recyclables stored by each dwelling unit would be collected through curbside garbage and recycling services.

6.4 Organic Waste Recycling

The project would require landscaping, landscape maintenance, and brush management. Drought tolerant plants would be used to reduce the amount of green waste produced. Collection of organic waste and its disposal at recycling centers that accept organic waste would further reduce the waste generated by the project during occupancy. Implementation of ongoing WMP requirements would include a means for handling landscaping and other organic waste materials. The ongoing WMP measures discussed in Section 6.2, Waste Reduction Measures, would include a means for handling landscaping and other organic waste materials.

7.0 Conclusion

7.1 Demolition, Grading, and Construction Waste

Diversion goals will be communicated to contractors through contract documents; the project's California Environmental Quality Act document, this WMP and corresponding project conditions; and the SWMC for the project. The project would balance soils on site during construction, resulting in no net export of soil. All green waste would be recycled at the Miramar Greenery facility (5180 Convoy Street); thus, the project would achieve 100 percent diversion during grading. A total of approximately 439.4 tons of waste would be generated during the construction of the project (see Table 3). Most of this waste would be recycled at source separated facilities that achieve a 100 percent diversion rate. Therefore, it is estimated that 377.8 tons of material would be diverted through on-site reuse and source separation strategies during the construction phases, leaving 61.5 tons to be disposed of. This amounts to a 90 percent reduction in solid construction waste, which would be diverted from the landfill.

7.2 Occupancy – Operational Waste

The project would develop 84 detached multi-family residential units that would generate approximately 134.4 tons of waste per year. As such, the project would be required to provide a minimum of 192 square feet of exterior refuse area and 192 square feet of recyclable material storage area (total of 384 square feet; see Table 6). The project would meet this requirement by each individual detached multi-family residential unit providing its own 2.29 square feet of refuse storage and 2.29 square feet of recycling storage within their garages. Refuse and recyclables stored by each dwelling unit would be collected through curbside garbage and recycling services.

The applicant (or applicant's successor in interest) would implement the ongoing waste reduction measures as prescribed in this WMP to ensure that the waste is minimized and the operation of the project complies with City ordinances. According to the City Waste

Management Guidelines (City of San Diego 2013), compliance with existing ordinances is expected to achieve a 40 percent diversion rate. Therefore, approximately 81 tons of non-recyclable waste per year would be generated from the project, exceeding the 60 ton-per-year threshold of significance for having a cumulative impact on solid waste services by 21 tons per year. However, preparation of this WMP and implementation of the Waste Reduction Measures, outlined in Section 6.2 above, would ensure the cumulative solid waste impact is reduced to below a level of significance.

8.0 Overall Compliance

With implementation of the strategies outlined in this WMP and compliance with all applicable City ordinances, solid waste impacts would be reduced to below a level of significance regarding collection, diversion, and disposal of waste generated from C&D, grading, and occupancy. During occupancy, the applicant or applicant's successor in interest would be required to implement the ongoing WMP measures detailed herein to ensure maximum diversion from landfills. Implementation of the WMP would include provisions to provide adequate exterior storage space for refuse, recyclable, and landscape/green waste materials.

This WMP outlines strategies to achieve 86 percent of waste being diverted from disposal during C&D of the project. This would reduce the anticipated impact of waste disposal to below the direct impact threshold of significance. Without implementation of WMP measures, the occupancy phase would only achieve 40 percent diversion. However, with implementation of ongoing WMP measures detailed in Section 6.2, and achievement of an 86 percent diversion rate during the construction phase, the project would achieve overall compliance.

9.0 References Cited

California, State of

1989 Assembly Bill 939. Integrated Waste Management Act.

2010 Senate Bill 1016. Solid Waste Per Capita Disposal Measurement Act.

2011 Assembly Bill 341. Jobs and Recycling.

California Code of Regulations

2018 State Minimum Standards (Title 14 CCR 17383.3(b)(2))

San Diego, City of

2000 Waste Composition Study 1999-2000. Final Report. San Diego Environmental Services Department. November 2000.

2007a Recycling Ordinance. San Diego Municipal Code Chapter 6, Article 6, Division 7. November 20, 2007.

- 2007b Refuse and Recyclable Materials Storage Regulations. Municipal Code Chapter 14, Article 2, Division 8. December 9, 2007.
- 2008 Construction and Demolition Debris Diversion Deposit Program. San Diego Municipal Code Chapter 6, Article 6, Division 6.
- 2013 California Environmental Quality Act – Guidelines for a Waste Management Plan. June 2013. Available at: <https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/recycling/wmpguidelines.pdf>. Accessed on January 19, 2018
- 2016 Significance Determination Thresholds. California Environmental Quality Act. July.
- U.S. Environmental Protection Agency (U.S. EPA)
- 2009 Estimating 2003 Building-Related Construction and Demolition Materials Amounts. March. <https://www.epa.gov/sites/production/files/2017-09/documents/estimating2003buildingrelatedcanddmaterialsamounts.pdf>. Accessed on January 9, 2018.

ATTACHMENTS

ATTACHMENT 1

City of San Diego 2019 Construction & Demolition Recycling Facility Directory



2019 Certified Construction & Demolition (C&D) Recycling Facility Directory

These facilities are certified by the City of San Diego to accept materials listed in each category. Hazardous materials are not accepted. The diversion rate for these materials shall be considered 100 percent, except mixed C&D debris, which update quarterly. The City is not responsible for changes in facility information. Please call ahead to confirm details such as accepted materials, days and hours of operation, limitations on vehicle types, and cost. For more information visit: www.recyclingworks.com.

<p><i>*Transfer Stations offer both recycling and trash disposal services. In order to receive recycling credit, you must:</i></p> <p><i>-Notify the weighmaster your load is subject to the City of San Diego C&D Ordinance.</i></p> <p><i>-If your load is mixed Construction and Demolition (C&D) debris, ensure it is coded correctly on the receipt. Tickets coded as "MSW, trash or refuse" will receive 0% credit.</i></p> <p><i>-Ensure the project address and Permit number are added to the receipt.</i></p> <p><i>Please note: Miramar Landfill and other landfills DO NOT recycle mixed C&D debris.</i></p>	Mixed C&D Debris	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks	Trash
<p>*EDCO Recovery & Transfer*</p> <p>3660 Dalbergia St, San Diego, CA 92113</p> <p>619-234-7774 www.edcodisposal.com</p>	68%											•						•
<p>*EDCO Station Transfer Station & Buy Back Center*</p> <p>8184 Commercial St, La Mesa, CA 91942</p> <p>619-466-3355 www.edcodisposal.com</p>	68%				•							•			•			•
<p>*EDCO CDI Recycling & Buy Back Center*</p> <p>224 S. Las Posas Rd, San Marcos, CA 92078</p> <p>760-744-2700 www.edcodisposal.com</p>	88%				•										•			•
<p>Escondido Resource Recovery</p> <p>1044 W. Washington Ave, Escondido</p> <p>760-745-3203 www.edcodisposal.com</p>	68%																	
<p>*Fallbrook Transfer Station & Buy Back Center*</p> <p>550 W. Aviation Rd, Fallbrook, CA 92028</p> <p>760-728-6114 www.edcodisposal.com</p>	68%				•										•			•
<p>Otay C&D/Inert Debris Processing Facility</p> <p>1700 Maxwell Rd, Chula Vista, CA 91913</p> <p>619-421-3773 www.sd.disposal.com</p>	78%																	
<p>*Ramona Transfer Station & Buy Back Center*</p> <p>324 Maple St, Ramona, CA 92065</p> <p>760-789-0516 www.edcodisposal.com</p>	68%				•										•			•
<p>SANCO Resource Recovery & Buy Back Center</p> <p>6750 Federal Blvd, Lemon Grove, CA 91945</p> <p>619-287-5696 www.edcodisposal.com</p>	68%				•										•			
<p>Allan Company</p> <p>6733 Consolidated Wy, San Diego, CA 92121</p> <p>858-578-9300 www.allancompany.com/facilities</p>					•										•			
<p>Allan Company Miramar Recycling</p> <p>5165 Convoy St, San Diego, CA 92111</p> <p>858-268-8971 www.allancompany.com/facilities</p>					•										•			
<p>AMS</p> <p>8515 Miramar Pl, San Diego, CA 92121</p> <p>858-541-1977 www.a-m-s.com</p>								•										

<p><i>*Transfer Stations offer both recycling and trash disposal services. In order to receive recycling credit, you must:</i></p> <p>-Notify the weighmaster your load is subject to the City of San Diego C&D Ordinance.</p> <p>-If your load is mixed Construction and Demolition (C&D) debris, ensure it is coded correctly on the receipt. Tickets coded as <i>"MSW, trash or refuse"</i> will receive 0% credit.</p> <p>-Ensure the project address and Permit number are added to the receipt.</p> <p><i>Please note: Miramar Landfill and other landfills DO NOT recycle mixed C&D debris.</i></p>	Mixed C&D Debris	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks	Trash
<p>Armstrong World Industries, Inc. 300 S. Myrida St, Pensacola, FL 32505 877-276-7876 (Press 1, Then 8) www.armstrong.com/commceilingsna</p>								•										
<p>Cactus Recycling 2225 Avenida Costa Este Suite 1600, San Diego, CA 92154 619-446-7093 www.cactusrecycling.com</p>					•								•		•		•	
<p>DFS Flooring 10178 Willow Creek Rd, San Diego, CA 92131 858-630-5200 www.dfsflooring.com</p>						•	•											
<p>Duco Metals 220 Bingham Dr Suite 100, San Marcos, CA 92069 760-747-6330 www.ducometals.com</p>															•			
<p>Enniss Incorporated 12421 Vigilante Rd, Lakeside, CA 92040 619-443-9024 www.ennissinc.com</p>		•	•						•	•								
<p>Escondido Sand and Gravel 500 N. Tulip St, Escondido, CA 92025 760-432-4690 www.weirasphalt.com</p>		•																
<p>Habitat for Humanity ReStore 8101 Mercury Ct, San Diego, CA 92108 619-516-5267 www.sandiegohabitat.org</p>				•														
<p>Hanson Aggregates West – Lakeside Plant 12560 Highway 67, Lakeside, CA 92040 858-547-2141</p>		•																
<p>Hanson Aggregates West – Miramar 9229 Harris Plant Rd, San Diego, CA 92126 858-974-3849</p>		•								•								
<p>HVAC Exchange 2675 Faivre St, Chula Vista, CA 91911 619-423-1564 www.hvacx.com</p>															•			
<p>IMS Recycling Services 2740 Boston Ave, San Diego, CA 92113 619-423-1564 www.imsrecyclingservices.com</p>					•								•					
<p>Inland Pacific Resource Recovery 12650 Slaughterhouse Canyon Rd, Lakeside, CA 92040 619-390-1418 www.iprrgreen.com</p>											•							
<p>Los Angeles Fiber Company 4920 S. Boyle Ave, Vernon, CA 90058 323-589-5637 www.lafiber.com</p>						•	•											

<p><i>*Transfer Stations offer both recycling and trash disposal services. In order to receive recycling credit, you must:</i></p> <p>-Notify the weighmaster your load is subject to the City of San Diego C&D Ordinance.</p> <p>-If your load is mixed Construction and Demolition (C&D) debris, ensure it is coded correctly on the receipt. Tickets coded as <i>"MSW, trash or refuse"</i> will receive 0% credit.</p> <p>-Ensure the project address and Permit number are added to the receipt.</p> <p><i>Please note: Miramar Landfill and other landfills DO NOT recycle mixed C&D debris.</i></p>	Mixed C&D Debris	Asphalt/Concrete	Brick/Block/Rock	Building Materials for Reuse	Cardboard	Carpet	Carpet Padding	Ceiling Tile	Ceramic Tile/Porcelain	Clean Fill Dirt	Clean Wood/Green Waste	Drywall	Industrial Plastics	Lamps/Light Fixtures	Metal	Mixed Inerts	Styrofoam Blocks	Trash
Miramar Greenery, City of San Diego 5180 Convoy St, San Diego, CA 92111 858-694-7000 www.miramargreenery.com											•							
Moody's 3210 Oceanside Blvd, Oceanside, CA 92056 760-433-3316 www.moodyselfcorazonrecycling.com		•								•						•		
Planet Recycling 187 Mace St, Chula Vista, CA 91911 888-258-7755 www.planetrecyclingphoenix.com						•												
Reclaimed Aggregates Chula Vista 855 Energy Way, Chula Vista, CA 91913 619-656-1836		•														•		
Robertson's Ready Mix 2094 Willow Glen Dr, El Cajon, CA 92019 619-593-1856 www.rrmca.com		•								•						•		
RAMCO 8354 Nelson Way, Escondido, CA 92026 760-205-1797 www.ramco.us.com		•																
SA Recycling 3055 Commercial St, San Diego, CA 92113 619-238-6740 www.sarecycling.com															•			
SA Recycling 1211 S. 32 nd St, San Diego, CA 92113 619-234-6691 www.sarecycling.com															•			
Universal Waste Disposal 8051 Wing Avenue, El Cajon, CA 92020 619-438-1093 www.universalwastedisposal.com														•				
Vulcan Carol Canyon Landfill and Recycle Site 10051 Black Mountain Rd, San Diego, CA 92126 858-530-9465 www.vulcanmaterials.com		•	•							•						•		
Vulcan Materials Company 2275 Hard Rock Rd, Chula Vista, CA 91913 858-530-9472 www.vulcanmaterials.com		•																
Vulcan Otay Asphalt Recycle Center 7522 Paseo de la Fuente, San Diego, CA 92154 619-571-1945 www.vulcanmaterials.com		•																

ATTACHMENT 2

City of San Diego Waste Generation Factors – Occupancy Phase

Waste Generation Factors – Occupancy Phase

The following factors are used by the City of San Diego Environmental Services Department to estimate the expected waste generation in a new residential or commercial development.

Residential Uses

Residential Unit = 1.6 tons/year/unit
Multi-family Unit = 1.2 tons/year/unit

Example: To calculate the amount of waste that will be generated from a project with 100 new homes, multiply the number of homes by the generation factor.

100 single family homes x 1.6 = 160 tons/year

100 multi-family units x 1.2 = 120 tons/year

Commercial/Industrial Uses

General Retail	0.0028
Restaurants & Bars	0.0122
Hotels/Motels	0.0045
Food Stores	0.0073
Auto/Service/Repair	0.0051
Medical Offices	0.0033
Hospitals	0.0055
Office	0.0017
Transp/Utilities	0.0085
Manufacturing	0.0059
Education	0.0013
Unclassified Services	0.0042

Example: To calculate the amount of waste that could be generated from a new building with 10,000 square feet for offices and 10,000 square feet for manufacturing, multiply the square footage for each use by the generation factor.

10,000 square feet x 0.0017 = 17 tons/year

10,000 square feet x 0.0059 = 59 tons per year

Total estimated waste generation for building = 76 tons/year