3.0 PROJECT DESCRIPTION

3.1 PROJECT TITLE

Tajiguas Resource Recovery Project (Resource Recovery Project).

3.2 PROJECT PROPONENT AND LEAD AGENCY

The project proponent and Lead Agency is the Santa Barbara County Public Works Department, Resource Recovery & Waste Management Division (RRWMD), located at 130 E. Victoria Street, Suite 100, Santa Barbara, California 93101.

3.3 PROJECT LOCATION AND SURROUNDING LAND USES

The Resource Recovery Project would be located at the Tajiguas Landfill. The Tajiguas Landfill is located in a coastal canyon known as Cañada de la Pila, approximately 26 miles west of the City of Santa Barbara. The Tajiguas Landfill is approximately 1,600 feet north of U.S. Highway 101. The street address for the Tajiguas Landfill is 14470 Calle Real, Santa Barbara, California 93117. The location of the Tajiguas Landfill and related County properties is shown on the Regional Location Map (Figure 3-1) and on the Vicinity Map (Figure 3-2). Figure 3-3 is an aerial photograph of the Tajiguas Landfill site acquired in September 2012 and shows the condition of the landfill at approximately the time the NOP for the proposed project was released. Figure 3-3 also includes the remaining permitted waste disposal contours (in blue) and the expected topographic contours present when the project would be initiated (in red).

U.S. Highway 101, the Union Pacific Railroad tracks, and the Pacific Ocean are located south of the landfill as shown in Figure 3-2. Properties that are adjacent to the landfill site are used primarily for agriculture or open space. The residential community of Arroyo Quemada is located on the coast, approximately 2,000 feet southeast of the Tajiguas Landfill.

The landfill property encompasses approximately 497 acres on Assessor Parcel Numbers (APN) 081-150-019, -026 and -042 (see Figure 3-2). The Resource Recovery Project facilities would be located on approximately 6 acres on APN 081-150-019. The project facilities would be located in the inland area of the landfill in the area of the existing developed operations deck which currently houses the landfill administration facilities (see Figure 3-4). During construction, landfill administration facilities would be temporarily relocated to an inland area of the landfill northeast of the landfill top deck or the landfill 370’ deck within the coastal zone. The composting area would occupy approximately 5 acres on APN 081-150-019 and APN 051-150-026, while water storage facilities would be located on APN 081-150-042.

The following Table summarizes current land use and zoning for the landfill property:

Comprehensive Plan Designation	A-II-100 (inland), Waste Disposal Facility Overlay A-II-320 (coastal)
Zoning District, Ordinance	Unlimited Agriculture (inland) AG-II-320 (coastal)

Site Size	Landfill property: 497.34 acres total, Resource Recovery Project Area: ~6 acres for the MRF/ADF and 5 acres for composting
Present Use & Development	Landfill and support facilities
Surrounding Uses/Zoning	West: former Hercules Gas Plant (now under PCB remediation) and Arroyo Hondo (recreation)/AG-II-100 North: Los Padres National Forest/AG-II-100 and U East: Baron Ranch (agriculture, native plant restoration)/100-AG-O and AG-II-320 South: Agriculture/Residential/AG-II-320
Access	U.S. Highway 101, via existing County-owned access road
Public Services	Water Supply: on-site and off-site wells Sewage: on-site septic Fire: Santa Barbara County Fire Electricity: Southern California Edison

3.4 PROJECT OVERVIEW

The County of Santa Barbara proposes to modify the operation of the Tajiguas Landfill Project to add a Resource Recovery Project that would process municipal solid waste (MSW) from the communities currently served by the Tajiguas Landfill. A summary of project components is provided in Table 3-1 and a comparison between existing and proposed operations is provided in Table 3-2. Figure 3-4 identify the locations of Resource Recovery Project facilities at the landfill site. The Resource Recovery Project, described below, would be designed and constructed to modify the processing of MSW that is currently being delivered to the Tajiguas Landfill for burial from unincorporated areas of the south coast of Santa Barbara, Santa Ynez and New Cuyama Valleys and, the cities of Santa Barbara, Goleta, Buellton and Solvang. The County of Santa Barbara, the cities of Santa Barbara, Goleta, Buellton and Solvang are collectively the "Public Participants". The facility would also be designed to process source separated organic (food and green) waste (SSOW) from the region's existing and future recycling programs[1]. Additionally, as an *optional project element*, the Resource Recovery Project could include the infrastructure to process currently collected commingled source separated recyclables (CSSR).

[1] SSOW is currently collected as green-waste only and is processed into mulch at the Tajiguas Landfill. Future programs may include food waste collected separately or included with green-waste. Any program that would increase the amount of SSOW would decrease the amount of organics in the MSW, and in turn, reduce the amount of MSW processed by the MRF by the same amount.

As discussed in Section 1.2, the Tajiguas Landfill has been in operation since 1967. The County has modified operations in the past to respond to updated requirements for solid waste disposal and to incorporate advancements in technology. The Resource Recovery Project would further modify current waste management operations at the Tajiguas Landfill by the addition of a Materials Recovery Facility (MRF) and Dry Fermentation Anaerobic Digestion (AD) Facility. A preliminary site plan for these facilities is provided as Figure 3-5.

The MRF processing area would be comprised of an approximate ~~60,000~~ 56,500 square foot (sf) facility (~~70,000~~ 66,500 sf[2] if CSSR [*optional element*] is included as described above) that would sort MSW into three streams:

- Recyclables (i.e., glass, metal, paper, plastic, wood) - recovered and processed for sale;
- Organics – recovered for processing in the Anaerobic Digestion Facility; and
- Residue – materials left over after all recyclables and organics are recovered that would be disposed of at the existing landfill.

The AD Facility would be housed within an approximate ~~63,000~~ 63,600 sf building, and associated energy facility and percolate storage tanks that would convert all organics recovered from the MSW and SSOW into:

- Bio-gas (primarily composed of methane and CO_2) – that would be used to power two (2) 1,573~~37~~ horsepower onsite combined heat and power (CHP) engines driving electric power generators that would generate approximately 1+ net megawatts (MW) of renewable power continuously. The Energy Facility would be located on the south side of the AD Facility; and
- Digestate - that can then be cured into compost and/or soil amendments. The curing would require an approximately 5 acre area (located at one or more sites on the landfill's permitted operations and/or waste disposal footprint). The compost and/or soil amendments would be marketed for agricultural or landscape use or used for reclamation projects.

Construction of the facility (MRF, AD Facility and Composting Area) would require approximately ~~107,200~~ 143,625 cubic yards of cut and ~~81,200~~ 167,595 cubic yards of fill. A preliminary grading plan for the MRF and AD Facility site is provided as Figure 3-6.

The MRF would have a design capacity of up to 800 tons/day of MSW or up to approximately 250,000 tons/per year (up to 311 operating days per year[3]). Up to 90,000 tons/year (290 tons/day) of recyclable material would be recovered and sold for reuse. The AD facility would have a design capacity of up to 73,600 tons/year, made up of organics recovered from the MRF and/or brought to the project site as SSOW.

[2] The square footage listed represents the MRF processing area (tipping floor, processing and storage, load-out) building footprint.

[3] Assumes operation up to a maximum of 6 days per week (6 * 52 = 312) and accounting for one holiday (312-1=311 operating days).

Up to 100,000 tons/year (320 tons/day) of residue from the MRF and residue from the AD Facility which is not suitable for composting would be landfilled. Residue ineligible for disposal in the landfill (i.e., hazardous waste or e-waste), would be transported to an appropriate recycling or disposal facility. A simplified process flow diagram illustrating the flow of materials through the proposed MRF and AD Facility is provided as Figure 3-7.

As an *optional element*, the project could also process up to 130 tons/day of CSSR or 40,000 tons/year (see Table 3-1). With the inclusion of this *optional element,* the total maximum processing capacity of the MRF would be approximately 290,000 tons/year (250,000 tons/year MSW + 40,000 tons/year CSSR). Processing of CSSR would increase the production of marketable recyclables by up to 36,000 tons/year (126,000 tons/year overall), producing up to an additional 4,000 tons/year (13 tons/day) of residue which would be disposed of in the landfill.

Based on current waste disposal rates the Tajiguas Landfill may reach its permitted disposal capacity (23.3 million cubic yards) in approximately year 2026. With the additional diversion provided by the proposed Tajiguas Landfill Project modification (operation of the Resource Recovery Project), the permitted disposal capacity (which would not be modified as a part of the project) would not be expected to be reached until approximately year 2036, extending the landfill life by approximately 10 years.

The Resource Recovery Project facilities would be located approximately 3,200 feet north of U.S. Highway 101 on the existing Tajiguas Landfill operations deck, an approximately 6-acre site that currently houses the landfill administrative office, two crew trailers, engineering trailer, hazardous material storage, electronic-waste storage, equipment storage and parking, employee parking, maintenance facility and three fuel storage tanks[4].

The Coastal Zone boundary runs through the southern portion of the landfill property (see Figure 3-3). The facilities (MRF, AD Facility and composting area) associated with the Resource Recovery Project would be located outside of the Coastal Zone. The landfill operations trailers may be temporarily re-located to an area northeast of the landfill top deck in the inland area of the landfill property and/or within the Coastal Zone during construction of the project. The composting area is proposed to be located on the top deck of the landfill. The top deck would be closed and a final landfill cover system installed prior to using it for the project's composting area. To protect the integrity of the landfill and protect water quality, closure, post-closure use and post-closure maintenance of the top deck area would be subject to review and approval by CalRecycle, the LEA and the Regional Water Quality Control Board.

[4] Pursuant to CEQA requirements, the EIR alternatives analysis will consider sites outside of the Tajiguas Landfill for the Resource Recovery Project facilities including possible locations within the urban area of the county or city.

Table 3-1. Project Element Summary

Project Element	Associated Facilities	Project Element Capacity (max)	Operational Parameters[1]
MRF			
Base Project MRF	Processing building – ~~60,000~~ 56,500 sf building footprint includes ~~14,000~~ 24,800 sf tipping floor (including 1,200 sf load-out/waste transfer area), ~~31,000~~ 31,700 sf waste processing and recyclable storage, ~~1,300 load out/waste transfer~~, Office/administration - ~~7,200~~ 4,700 sf footprint, includes office/administration/employee/control room areas, and ~~2,400~~ 1,500 sf visitors center (two-story) Total building footprint – 61,200 sf Total floor area – 66,700	MSW – 800 tons/day 250,000 tons/year	24 hours/day, 6 days/week, up to 311 days/year; (2 shift with 24 employees /shift and 1 shift with 7 employees/shift
	Storage buildings (detached) – 6,400 sf		
	Bio-filter – ~~5,280~~ 6,300 sf		
	Wastewater treatment facility – ~~300~~ 150 sf		
	Two dust collection systems, rolling bed dryer		
MRF with Optional CSSR Processing	Additional waste processing area – ~10,000 sf	CSSR – 130 tons/day 40,000 tons/year	7 am – 1:30 pm, 6.5 hours/day, 6 days/week, up to 311 days/year; 20 employees/shift
AD Facility			
AD Facility	Processing building - ~~63,000~~ 63,600 sf, building footprint including 16 digesters and ~~300,000~~ 545,700 gallon percolate storage	Organic waste from MSW and SSOW – 240 tons/day, 73,600 tons/year	Days receiving material- up to 311 Days of AD facility Operation - 24 hours/day, 365 days/year; 3 employees/shift (employees present 6 days/week)
	Two roof top bio-filters		
	Dust collection system		
	Composting area – 5 acres	Digestate -200 tons/day, 60,000 tons/year	Days receiving material – 208; days of operation - 7 am – 4:00 pm, 6 days/week; 1 employee/shift
Energy Facility & AD Control Room	Building attached to AD Facility – 2,900 sf housing two 1,573~~37~~ hp CHP engines	7.6-10.4 million KW-hours/year	24 hours/day, 365 days/year

[1] Waste receipt would occur during the currently permitted operating hours of 7:00 a.m. to 5:00 p.m., Monday and Tuesday and 7:00 a.m. to 4:00 p.m., Wednesday through Saturday.

Table 3-2. Comparison of Permitted and Proposed Project Components

Project Element	2009 Solid Waste Facility Permit	Proposed[5]
Total Permitted Area	357 acres total/118 acres for disposal	All project facilities would be located within the 2009 permitted area, except a 0.2 acre water tank site located just northwest of the West Borrow Area
Waste Type	MSW, Construction & Demolition, Recyclables, Green-waste	MSW, Construction & Demolition, Commingled & Source Separated Recyclables*, Source Separated Organic Waste (green-waste, food-waste or mixed green and food-waste)
Hours of Operations at the Landfill	Waste Receipt and Disposal Operations: Monday-Tuesday: 7:00 a.m. – 5:00 p.m.; Wednesday-Saturday: 7:00 a.m. – 4:00 p.m. Cover, Compaction, Construction & Maintenance: Monday-Saturday: 6:00 a.m. – 6:00 p.m. Construction Only: Monday-Saturday: 6:00 a.m. – 8:00 p.m.; Sunday: 7:00 a.m. – 6:00 p.m. Special Occurrences: ~~closed on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. Maximum~~ Open a total of 20 Sundays per year. Closed New Year's day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.	Permitted hours: No change; however, the landfill may operate within a subset of the permitted hours depending on the volume of residual and bypass waste requiring disposal
Hours of Operations at the MRF	N/A	Handling and Processing of Waste: 24 hours/day, up to 311 days/year, 6 days/week Waste Receipt: Monday-Tuesday: 7 a.m. – 5 p.m.; Wednesday-Saturday: 7 a.m.– 4 p.m. Transport of Recyclables: 24 hours/day, 6 days/week (Monday – Saturday)
Hours of Operations at the AD & Energy Facility	N/A	Days Receiving Material: up to 311 days/year Operation of the AD Facility: 24 hours/day, 365 days/year
Hours of Operations at the Composting Area	N/A	Composting Operations: 7:00 a.m. – 4:00 p.m., 6 days/week Transport of Finished Compost: 7 a.m. to 5 p.m., 6 days/week

[5] Note: The Tajiguas Resource Recovery Project facilities may be permitted through a modification to the Landfill's existing solid waste facility permit or under a new separate solid waste facility permit.

Table 3-2. Continued

Project Element	2009 Solid Waste Facility Permit	Proposed
Hours of Operations at the Chipping and Grinding Operation	Monday-Tuesday: 7 a.m. – 5 p.m. Wednesday-Saturday: 7 a.m. – 4 p.m.	No Change
Maximum/Peak Daily Tonnage (at landfill entry scale)	1500 tons/day, includes 145 tons/day green-waste	1,500 tons/day, includes up to 210 tons/day SSOW (green-waste, food-waste or combined food- and green-waste
Facility Design Capacity	23,300,000 cubic yards (landfill)	Landfill: 23,300,000 cubic yards (no change) MRF: 800 – 930* tons/day AD Facility: 240 tons/day Composting Area: 200 tons/day Chipping/Grinding Operations: 145 tons/day (no change)
Maximum/Peak Traffic	184 waste haul vehicles/day (does not include an additional 50 vehicle/day miscellaneous traffic)	No change to maximum/peak traffic of 234 vehicles per day. Vehicle composition to include waste haul trucks, recyclable and compost transport vehicles, and miscellaneous traffic.
Maximum Permitted Elevation of Landfill	620 feet above mean sea level	No Change
Total Permitted Disposal Footprint of Landfill	118 acres	No Change
Estimated Landfill Closure Year	2023[a]	2036
Site Activities & Operations	Landfill, Chipping and Grinding Operation	Landfill, MRF, Chipping/Grinding Operation, Composting area, Anaerobic Digestion Facility, and Energy Facility

*Optional project element

[a] Estimated closure year listed in the 2009 Solid Waste Facility Permit, Based on current waste disposal rates and revised calculations regarding remaining capacity, the landfill is now expected to be at capacity in 2026 and not 2023.

In 2009, the Public Participants initiated a procurement process and t~~T~~he vendor selected by the Public Participants to design, construct, own, and operate the Resource Recovery Project is Mustang Renewable Power Ventures, LLC (Mustang). Design information for this project has been provided by Mustang and Mustang's proposed technology service providers and construction contractor. Ultimate selection of the project vendor, is subject to approval by the participating jurisdictions.

~~As a part of the proposed project, the County expects that each of the Public Participants would enter into a legal arrangement (i.e. a Joint Powers Authority) which would in turn contract with Mustang to design, build and operate the facility. If a Public Participant chooses not to participate in the legal arrangement (i.e. a Joint Powers Authority) then the jurisdiction will contract directly with Mustang.~~ It is anticipated that the administrative and contractual agreements to operate the project may be administered through a legal arrangement such as a Joint Powers Authority (JPA) or directly with the County who would have a single waste services agreement with the vendor. The individual participating jurisdictions would have separate waste supply agreements with either the JPA or the County. If a single jurisdiction chooses not to participate in the JPA, or contract with the County, it will have a waste service agreement directly with the vendor.

The County/RRWMD would continue to operate the Tajiguas Landfill. Landfill operations and engineering offices would be integrated into the new Resource Recovery Project structures, but landfill staffing would be reduced in response to the reduced amount of waste requiring burial.

In addition to the facilities listed above, a new groundwater well would be constructed to provide water to the project and two new advanced, self-contained commercial wastewater package treatment units would be constructed to treat the project's domestic wastewater. The treated wastewater would be used for landscape irrigation on the slopes (non-landfill) adjacent to the MRF and AD Facility. A new 220,000 gallon fire suppression water storage tank would be installed to provide water for the building sprinkler systems, domestic and process/equipment wash down uses, landscape irrigation needs and fire hydrants. Parking would be provided for Resource Recovery Project staff, landfill operations staff and visitors.

The MRF and AD Facility buildings would also accommodate an array of solar photo-voltaic panels on the roofs. During construction of the Resource Recovery Project, landfill administrative and engineering offices, maintenance, and equipment storage would be temporarily relocated to either an existing disturbed area northeast of the landfill top deck or the landfill 370' deck southeast of the green-waste pad. Three landfill fuel tanks (red diesel, diesel, gasoline) currently located on the operations deck would be ~~temporarily~~ relocated to the landfill top deck near the proposed location of the new maintenance facility (north of the top deck, see Figure 3-4).

The Resource Recovery Project's waste processing activity is anticipated to result in the recovery and beneficial reuse of 60 percent or more (by weight) of the waste stream by diverting such amount from disposal at the landfill. Thus, the Resource Recovery Project would create a 20-year waste management solution for the community's waste (extending the life of the Tajiguas Landfill by approximately 10 years).

3.5 PROJECT COMPONENTS

3.5.1 Materials Recovery Facility

3.5.1.1 Site Location and Description

The MRF would be located in the northerly portion of the existing operations deck and would be accessible via the landfill's primary access road from U.S. Highway 101. A simplified layout diagram is provided as Figure 3-8, and preliminary elevation drawings are provided as Figure 3-9. The MRF would be comprised of a single approximately ~~60,000~~ 56,500 square foot building that would include:

1. Tipping floor/waste delivery area (~~14,000~~ 24,800 sf) to receive an estimated maximum delivery volume of 800 tons of MSW per day (250,000 tons/year);
2. MRF waste processing and recyclable storage area (~~31,000~~ 31,700 sf);
3. Load-out waste transfer area (~~1,300~~ 1,200 sf within the 24,800 sf tipping floor/waste delivery area) where the mixed MSW residual waste fraction (residue) would be top loaded in a partially enclosed loading bay area into County transfer trailers for delivery to the working face of the landfill for disposal. The load out area would also include a scale to measure the tonnage of the residual waste material sent to the landfill for disposal;
4. Loading dock area with dock-high capacity for container trailers and/or enclosed trucks to receive baled recyclable material for transport to markets; and
5. Additional waste processing area (10,000 sf) would be added to the MRF building if the *optional CSSR* material were processed at the MRF facility.

At the southeastern corner of the MRF there would be:

- Office/administration/employee/control room areas (~~7,200~~ 6,400 sf);
- Visitor/education/viewing area (~~2,400~~ 1,500 sf);

The average building height of the MRF waste processing area would be approximately ~~44~~ 47 feet with a maximum building height of approximately ~~61~~ 51 feet in the northernmost tip floor area of the MRF (see Figure 3-9). The MRF gable roof peak would run from west to east and would include a series of translucent sky lights. The sky lights would include built-in blinds or external adjustable blinds to prevent light from escaping from the building at night.

The building would also be designed to accommodate a south facing solar panel array that would generate approximately 500 kilowatts (KW) per hour during daytime hours. The MRF would be a prefabricated metal building with a panelized, color coated, exterior. The building would be constructed with a landfill gas barrier under the concrete floor and venting system and landfill gas monitoring system.

The MRF would include a high capacity, negative pressure air handling system that would be designed to capture the dust and odor emissions that are anticipated to be produced from processing the mixed MSW. The building air volume would be replaced an estimated 3 to 6 times (changes) per hour by air handling equipment and processed through high capacity bio-filter systems. Two dust collection systems would be provided at the MRF (see Figure 3-8), one serving the tipping floor and another serving the sorting area. Air would be drawn out of the building, passed through a series of cartridge dust collectors and exhausted to two bio-filters.

One bio-filter would be located near the waste load-out area and serve the tipping floor, while the other would be located on the AD Facility roof and serve the MRF's organics recovery area and recycling sorting and storage areas. In addition, a misting system charged with flocculent and deodorizers would be provided within the MRF building to reduce dust and odors.

3.5.1.2 Office/Administration

The MRF building would include approximately ~~7,200~~ 6,400 sf of space for Resource Recovery Project and landfill employees and administration offices and the MRF process control room.

3.5.1.3 Visitor/Education Center

The MRF building would include approximately ~~2,400~~ 1,500 sf of visitor/education center space with live camera coverage of each processing/separation component. The building would include a handicap accessible (elevator served) conference area overlooking the processing floor, and may include an enclosed viewing gallery to observe the MRF waste processing equipment.

Components of the sorting process would be described in each window. Interactive displays would be included to educate visitors on how waste and recyclable materials have historically been processed and current and future processing opportunities, the economics of recycling, how and where end products are used, energy costs, as well as latent energy potential in various waste components, lifecycle greenhouse gas analysis, and benefits of the Resource Recovery Project.

3.5.1.4 Material Types

Municipal Solid Waste. MSW received at the landfill would be processed through the MRF. The MRF waste processing area would include a series of specialized equipment as described in Section 3.5.1.9. The end products produced from the MRF would include:

1. Ready for market, baled recyclables of mixed paper, cardboard, various grades of plastic containers, film plastic and ferrous/non-ferrous metals;
2. 3-inch or smaller organic waste material for processing by the AD Facility;
3. Bulk loose materials for sale to recycling markets including inerts, wood and other construction & demolition debris, oversize metals, large rigid plastics, carpet & padding; and
4. A residual waste fraction appropriate for disposal at the landfill.

Commingled Source Separated Recyclables (*optional project element*). In addition to MSW, CSSR could also be processed through the MRF as an *optional project element*. This material is currently collected by the County's franchise waste haulers, brought to the South Coast Recycling and Transfer Station (SCRTS), transferred into County tractor trailers, and brought to Gold Coast in Ventura County. Under this *optional element*, the CSSR would continue to be collected by the franchise waste haulers and brought to the SCRTS. The material would then be transferred to County tractor trailers and brought to the Resource Recovery Project for processing and bailed and sold to recycling markets.

Inclusion of the processing of CSSR as a part of the Resource Recovery Project would consolidate the County's processing of recyclable materials providing operational, economic and environmental efficiencies.

3.5.1.5 Design/Permitted Capacity

The MRF would include up to two processing lines. The primary line would be designed to process approximately 40 tons/hour of MSW for an overall processing capacity of up to a maximum of approximately 250,000 tons of MSW per year (6 days/week at 20 operating hours/day).

If processing of CSSR is consolidated at the site (*optional element*), the secondary line would be designed to process approximately 20 tons/hour of CSSR for an overall processing capacity of up to a maximum of approximately 40,000 tons of CSSR per year and the total design capacity would be up to 290,000 tons/year (930 tons/day).

3.5.1.6 Pre-Processing Waste Storage

In the event of unanticipated MRF waste processing equipment maintenance, initially approximately 2-3 days of MSW (and CSSR if included in the project) waste stream delivery volume (approximately 800 tons per day) could be accommodated in the MRF tip floor area. In the event of an extended facility shutdown or a community disaster, all, or a portion of the waste stream could bypass the MRF and be delivered directly to the landfill for disposal.

3.5.1.7 Operations and Maintenance

The MRF would be operated by approximately 24 full-time employees per 8 hour operating shift (2 shifts) up to 6 days/week, 52 weeks per year. A third shift comprised of approximately seven (7) personnel would conduct cleaning and maintenance activities during the night. Shift hours of operation are anticipated to be 7:00 am – 3:30 pm; 3:00 pm – 11:30 PM; and, 11:00 pm – 7:30 am (cleaning and maintenance). Operating employees are estimated to include: 1 MRF manager; 1 processing line manager; 1 mechanic; 4 loader/equipment operators; 14 sorters; and, 3 laborers for the mixed MSW line.

Processing CSSR at the MRF would require 20 additional employees, consisting of 1 processing line manager, 1 mechanic, 14 sorters and 4 laborers for a total of 44 full-time employees per 8 hour operating shift. If the optional CSSR were processed at the MRF, it would be processed during one 6.5 hour shift (7:00 am – 1:30 pm) up to 6 days per week.

The MRF processing lines are highly automated and the MRF waste processing equipment generally achieves 75 to 95 percent waste stream sorting, separation and recovery rates for the various recyclable materials. A tip floor sorter would inspect all waste upon arrival to identify larger bulk and loose materials and to segregate any visible hazardous materials for shipment to authorized disposal facilities. Additional sorters stationed throughout the MRF processing lines would facilitate increased levels of sorting, separation and recovery rates of recyclable materials and decreased levels of contamination to the organic waste material forwarded to the AD Facility.

MRF equipment preventive maintenance would be performed daily in accordance with the MRF equipment vendor's detailed maintenance and replacement specifications. The MRF would have a corrective maintenance and equipment replacement contract with the MRF equipment vendor that would provide for on-call, same day maintenance of any non-operational equipment. The MRF equipment vendor would also maintain a dedicated replacement parts inventory for the MRF equipment. MRF equipment would be replaced or overhauled on a schedule provided by the MRF equipment vendor.

3.5.1.8 Post-Processing Material Storage

Up to 90,000 tons/year (290 tons/day) of the MSW stream and up to 36,000 tons/year (120 tons/day) of the CSSR waste stream (if this *optional element* is implemented) would be recovered as recyclable materials to be exported to market. Initially, an estimated 2-3 days of post-processing baled recyclable material storage would be provided on-site within the MRF waste processing area. An additional 5-6 days of post-processing recyclable material storage could be accommodated in an outside enclosed storage area (approximately 40' length x 80' width x 20' height) east of the MRF building, if such a need arose.

3.5.1.9 MRF Equipment

The MRF waste processing area would include a series of specialized equipment (i.e. size reducer, bag openers, shredders, trommel screens, conveyors, volumetric/density air separators, ballistic separators, magnetic eddy current, ~~and~~ optical sorting separators and a rolling bed dryer [RBD][6]) each designed to size, reduce, sort, separate and recover the maximum quantity of available recyclable material from the MSW, while also recovering and cleaning organic waste (food, green and other compostable) material for delivery to the AD Facility. All MRF sorting and separation equipment would be electrically powered. Mobile equipment would be used to load MSW into the MRF equipment and residue into load out trucks and recyclables into export trucks. Table 3-3 provides a list of mobile equipment proposed to be used at the MRF.

3.5.1.10 Post-Processing Material Transportation

Bailed recyclable materials would be transported from the Resource Recovery Project site to off-site markets. The export trucks (22 ton capacity, compressed natural gas powered [CNG]) would be contracted from a third party company with their home base at the Port of Los Angeles or Santa Maria. It is anticipated the majority of the recyclables would be transported to markets in the Los Angeles area or delivered to the Port of Long Beach for distribution to other markets. Trucks exporting material from the site would likely depart at approximately 9:30 a.m., 6:00 p.m., and 3:30 a.m. When not transporting material, the trucks would be parked at the MRF loading docks or in the project parking area east of the MRF building.

[6] The RBD is a part of the MRF processing equipment, but would be located in the alleyway between the MRF and AD Facility. The RBD would use CHP engine exhaust heat to dry fiber/paper recovered in the MRF allowing for its highest and best use. The RBD would be equipped with a baghouse filter to remove particulates generated during the drying process.

Table 3-3. MRF On-site Mobile Equipment

Equipment Type	Engine Size – Emissions Design Criteria	Fuel	Number
~~Volvo L110~~ Caterpillar 980M wheeled loader	~~260~~ 386 BHP - Tier 4	Diesel	2
~~Volvo L90~~ Caterpillar 938K wheeled loader	~~173~~ 169 BHP - Tier 4	Diesel	1
~~Volvo L20 wheeled loader~~	~~56 BHP – Tier 4~~	~~Diesel~~	~~1~~
Caterpillar M322D material handler	173 BHP – Tier 4	Diesel	1
~~Toyota forklift (6,000 lb capacity)~~ Caterpillar 2P-6000 forklift	~~57~~ 61 BHP – Tier 4	Diesel	3
Heavy-duty truck (residual to landfill)	-	Compressed natural gas	1
Utility truck (Ford F350)	-	On-road diesel	1
Pick-up Trucks (Ford F250)	-	On-road diesel	2
Tennant 800 Sweeper	~~63~~ 65 BHP – Tier 4	Diesel	1

3.5.2 DRY FERMENTATION ANAEROBIC DIGESTION FACILITY

3.5.2.1 Site Location and Description

The AD Facility would be located in the southerly portion of the existing operations deck and would be accessible via the landfill's primary access road from U.S. Highway 101. A simplified layout diagram is provided as Figure 3-10, and preliminary elevation drawings are provided as Figure 3-11. The proposed AD Facility includes approximately 63,360 sf of enclosed building space including the following components:

1. Sixteen digesters totaling approximately 38,000 sf;
2. Mixing area of approximately 16,600 sf;
3. MSW organic waste delivery area of approximately 2,300 sf;
4. Compost load out area of approximately 7,000 sf (the compost load out area would also serve as a SSOW delivery area);
5. ~~Two~~ One engine room~~s~~ of approximately 1,800 sf ~~1,100 & 1,600 sf respectively~~ housing the two CHP engines; and
6. Control room, office, bio-gas cleanup, maintenance and employee rooms totaling approximately 1,500 sf.

The AD Facility building would be constructed of concrete with a metal frame gable roof peak running east to west. The building roof height would be 37 feet (see Figure 3-11). However, the CHP engine stack would be higher, about ~~48~~ 44 feet. The AD Facility roof would slope gently from west to east, would include a series of sky lights shielded with built-in or external blinds to prevent light from escaping from the building at night over the mixing area and is anticipated to accommodate a south facing solar photo-voltaic panel array that would generate 500 KW per hour (approximately 30 percent of the power required to operate the AD Facility and the MRF waste processing equipment).

The building would be constructed with a landfill gas barrier and venting system and landfill gas monitoring system. The building air volume would be replaced an estimated 3 to 6 times (changes) per hour by air handling equipment. Air would be drawn out of the building and passed through a series of cartridge dust collectors, and exhausted to a high capacity bio-filter mounted on the roof to control odors (see Figure 3-10).

Best available emission control technology in the form of a selective catalytic reduction system would be provided with the CHP engines to reduce the criteria pollutant levels below the requirements of the Santa Barbara County Air Pollution Control District.

In addition to the bio-filter, a dust collection system would be provided at the AD Facility (see Figure 3-10), serving the digester building. Air would be drawn out of the building and passed through a series of cartridge dust collectors.

3.5.2.2 Waste Material Types

The AD Facility would utilize a proprietary technology to convert organic waste recovered from the MSW in the MRF and SSOW into a bio-gas containing 50 to 60 percent methane. The bio-gas would be used to power two (2) on-site combined heat and power (CHP) engines. The organic waste would be recovered from the MSW by the MRF, or arrive at the site as SSOW from current and future commercial, institutional and residential food scraps collection programs. SSOW would be trucked directly to the proposed AD Facility and delivered to a SSOW Delivery Area or transferred from the adjacent MRF via an automated conveyor belt system directly to a MSW organics delivery area.

The SSOW would originate from the same wasteshed as the MSW but would be collected separately at the point of origin (e.g., schools, restaurants, public institutions) and transported to the Resource Recovery Facility in separate trucks. Any program that would increase the amount of SSOW delivered to the AD Facility would decrease the amount of organic waste received in the MSW and processed by the MRF. Ultimately, four of the 16 digesters would be dedicated to SSOW (see SS Digesters on Figure 3-10). When feasible, SSOW would remain separate from organic waste derived from MSW during delivery, processing and composting.

3.5.2.3 Percolate Storage

The AD Facility would include ~~three~~ two percolate storage tanks; one approximately ~~150,000~~ 204,000 gallon tank (24 feet tall) to support the anaerobic digestion of organic waste recovered from the MSW and ~~two~~ one approximately ~~75,000~~ 341,700 gallon tank~~s~~ (~~33~~ 31 feet tall) to support the anaerobic digestion of SSOW. The percolate tanks would be filled once at the inception of the AD Facility's operations and do not need to be refilled. The percolate system for the AD Facility is a closed loop system and does not produce any wastewater discharge.

Percolate tank containment systems would be provided in accordance with Regional Water Quality Control Board regulations. Organic waste material has ahigh moisture content, typically in excess of 60 to 70 percent water. Consequently, the dry-fermentation anaerobic digestion process does not consume process water.

3.5.2.4 Anaerobic Digestion Process and Bio-Gas Generation

Anaerobic digestion is a technology commonly used in wastewater treatment plants to treat organic matter and has been endorsed by CalRecycle as a method to reduce landfilling of organic waste. Controlled composting of organic materials in large airtight containers produces carbon dioxide and methane, which are captured as bio-gas.

Bio-gas would be harvested within enclosed process structures in "digesters", which are large concrete vessels. These digesters are filled with organic waste feedstock and the waste is processed using an anaerobic digestion procedure. A liquid percolate material is sprayed over the organic waste material 3 to 4 times per day to accelerate the anaerobic digestion process. The percolate is a mixture of water and microorganisms that metabolize the organic waste during the anaerobic digestion process converting the organic waste material to a methane rich bio-gas.

Bio-gas is continuously generated during the anaerobic digestion process and extracted from the digesters. The bio-gas is estimated to be comprised of approximately 50 to 60 percent methane with the balance comprised predominantly of carbon dioxide. Bio-gas generated by the anaerobic digestion of the organic waste would power two (2) 1,537 horsepower onsite CHP engines driving electric power generators. Heat extracted from the hot combustion exhaust of each engine would be used to warm the anaerobic digesters to a temperature of 131 to 140 °F (55-60 °C) specified as the ideal temperature to support a thermophilic anaerobic digestion process.

After an initial anaerobic digestion phase is complete (up to 28 days), the remaining material is removed from the digesters and mixed with up to 60 percent fresh organic waste material in an enclosed mixing area located within the AD Facility. The mixed organic waste material is then placed back into the digesters for a final anaerobic digestion phase (also up to 28 days).

The anaerobically digested organic waste material, also known as digestate, would then be removed from the digesters and transported via truck to the composting area for outdoor windrow aerobic compost finishing or curing phase and screening as described below. The mass of the digestate would be reduced by approximately 10 percent from the mass of the organic material loaded into the digesters due to the bio-gas that is produced and captured.

Prior to opening each active digester, the bio-gas in the digester would be purged to a flare using exhaust from the CHP engines, to prevent the formation of a bio-gas/air mixture that may become combustible. The flare ~~(42 feet in height overall)~~ would extend approximately 11 feet above the roof parapet, or 62 feet above the MRF floor elevation, and would be installed ~~on the roof of the AD Facility building~~ on the western side of the alley between the AD Facility building and the MRF and would burn the purged bio-gas, minimizing odors associated with opening the digesters. Residual odors following purging would be controlled through bio-filter treatment of air within the building.

3.5.2.5 Composting/Finishing Operations

The digestate would be removed from the AD Facility following the anaerobic digestion phase and transferred to the composting area by truck for a 6 to 8 week aerobic curing phase to produce compost and/or soil amendments. A preliminary site plan of the composting area is provided as Figure 3-12. Digestate derived from SSOW would be stockpiled and composted separately from MSW-derived digestate, due to the potential for MSW-derived digestate to contain metals and other contaminants not suitable for all compost end users.

The composting area would receive material and operate up to 6 days per week. Since the 16 digesters would be loaded/unloaded once every 28 days (208 total digester cycles per year), material would be transferred to the composting area approximately 17 days per month (an average of 4 days per week). The approximate 5 acre composting area would be located on the closed top deck area[7] of the landfill waste footprint outside of the Coastal Zone. The composting area would be asphalt paved to facilitate access, drainage, run-off collection and storage, equipment operations, and compost pile management.

The anaerobic digestion process is expected to generate up to 60,000 tons/year of digestate from 73,600 tons/year of organic waste. During the composting phase, a further mass reduction of approximately 50 percent (biodegradation, evaporation) typically occurs. The digestate would leave the AD Facility with 50 to 60 percent moisture content. Through aeration and manipulation of the windrows, the compost piles would lose some moisture. To complete the composting process, supplementary water may be added during the drier months of the year to keep the compost in the optimal 40 to 60 percent moisture content range. Composting would require up to 2,200 gallons per day to maintain moisture levels. Supplementary water would be provided through collection and reuse of water collected in the composting area as discussed below and from an existing landfill groundwater well (Tajiguas Landfill Well no. 5). Up to 0.6 acre-feet/year of well water may be required for the compost curing process. Well water would be stored in a small tank located adjacent to the composting area and used to supplement flows from the compost area run-off collection tank.

The digestate would be converted into compost or soil amendment through an extended aeration process, averaging about six weeks in duration[8]. Wood chips may be used as a bulking agent depending on pH and carbon/nitrogen (C/N) ratio of the digestate, which is dependent on percent food waste and organic waste stream processed at the AD Facility. The wood waste used for the bulking agent would be recovered from the MRF and would be chipped at the composting area using an electric-powered grinder. The digestate would be stored in windrows (approximately 12 feet-high x 40 feet-wide x 228 feet-long) and would be aerated weekly using a windrow turner.

[7] Closure of this top deck area is expected to occur in 2016/2017.

[8] In the absence of proposed anaerobic digestion, the required aerobic composting period would be approximately 14-18 weeks.

The final curing is an aerobic, thermophilic process that occurs at temperatures of 131 to 140 °F (55-60 °C). The aerobic curing phase results in a nearly complete reduction or total elimination of all pathogens and weed seeds. At the end of the curing process, the compost and/or soil amendments would be screened using a 1/8" screen and any small amount of residual or contaminant material would be recovered as recyclable material (glass, metal, plastic) or would be back hauled to the tip floor load out area for weight check and then transported to the landfill for disposal.

The compost quality would be tested on a regular basis in accordance with the U.S. Composting Council (USCC) Seal of Testing Assurance (STA) suite. The USCC STA suite of tests evaluates moisture content, organic matter, total nitrogen, nitrate nitrogen, ammonia nitrogen, total phosphorus, total potassium, total calcium, total magnesium, total sodium, total iron, total copper, total manganese, total zinc, sulfate as SO_4, boron, chloride, conductivity, pH, C:N Ratio, germination, compost maturity/stability index, particle size, fecal coliform and metals (arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc). The USCC STA test results would determine the quality of compost in accordance with composting operations regulatory requirements (California Code of Regulations Title 14, Division 7, Chapter 3.1) and any end-user standards (e.g., Caltrans).

The finished compost product would be stockpiled in the composting area, in a pile approximately 20' high x 155' wide x 160' long. The stockpile has been designed to store one month of finished compost. The compost may be sold in bulk or bagged on-site and then trucked away for re-sale.

The composting area would be regulated by both CalRecycle and the Regional Water Quality Control Board and managed in accordance with best management practices for outdoor windrow composting operations. The composting area would be graded at a minimum slope of three percent toward collection points around the perimeter of the area. A berm would also be constructed around the perimeter of the composting area to prevent run-off from leaving the area and to prevent storm water run-on. In addition, the compost piles would be covered with tarps during sequential rain events following initial optimum pile rainwater absorption and to limit storm water contact.

In accordance with the State Water Resources Control Board Draft Compost Regulations, 25-year, 24-hour storm event flows would be captured in onsite storage facilities. Wastewater generated by manipulating the compost windrows, as well as storm water run-off from the pad, would be collected and directed through sediment removal device into two portable tanks (Baker, or equivalent). Each tank would be equipped with a level indicator to assist the operators in managing the water storage system. A 5000 gallon tank would be installed beside the Baker tank to provide water to a 500 gallon trailer-mounted tank with sprayer to provide water to the compost piles. The trailer-mounted tank would be pulled by the windrow turner or small garden tractor. Using the trailer-mounted tank, the procedure would be to spray a windrow, turn the windrow and spray again to achieve the desired compost pile moisture level and as a best management practice to limit the formation of odors. A maximum combined water storage of 216,000 gallons is anticipated to be required to maximize the use of collected run-off.

Storm water storage would be provided by a 325,000 gallon run-off collection tank (26 feet tall) to accommodate the design storm (25-year, 24-hour), and to provide additional storage for back-to-back storm events. The tank would be located approximately 1,500 feet north of the composting area (see Figures 3-4 and 3-12). A small section of the pipeline connecting the tank to the composting area would be located along property line between the landfill and Baron Ranch.

To maintain capacity in the tank and to meet the compost area water demand, the collected water would be filtered and reused on the compost piles. On occasions when the tank is full due to multiple, sequential storm events, the compost would be covered with tarpaulins and the aisles between windrows would be swept to minimize the contact with storm water. The run-off will be directed through a dedicated pipeline to the landfill's north sedimentation basin.

Run-off from rainfall events exceeding the 25-year, 24-hour storm would also be diverted through an overflow system to the north sedimentation basin, which discharges to Pila Creek.

Windrow turning, compost/soil amendment screening and transportation operations would occur between the hours of 7:00 am - 4:00 pm, 6 days/week. As noted above, the windrows would have a moisture content of 40 to 60 percent and as such would not typically generate airborne dust particles; however, litter fences would be installed around the curing area to collect any windborne debris.

The end product from the recovered organic fraction of the MSW is anticipated to be marketed as a moderate quality soil amendment for non-food agricultural applications, landscape material and/or general fill to customers located throughout the County. The end product from the SSOW is anticipated to be marketed as compost and/or a high quality soil amendment suitable for various agricultural applications to customers located throughout the County.

3.5.2.6 Design Capacity

Each digester would have an effective fill capacity of approximately 29,250 cubic feet (approximately 354 tons). Considering a retention time of 28 days, an inoculation ratio of 40 percent (in other words, every 28 days, 60 percent of fresh organic waste material is combined with 40 percent organic waste material that has been digesting for up to 28 days) and an average input density of 0.65, the annual treatment capacity of one digester is approximately 4,600 tons/year. Thus, the annual treatment capacity of 16 digesters is approximately 73,600 tons. The estimated mass reduction that occurs during the AD process is approximately 10 percent (equal to the mass of produced bio-gas).

Organic waste from the MRF may contain some contaminants such as glass and plastic. These materials are inert and would not impede the anaerobic digestion process. The contaminants take up space in the digesters and provide structure to the organics so that the percolate can adequately infuse the organic waste material. At least 90 percent of these contaminants would be removed during the compost screening process.

In addition to the MSW organic waste transferred to the AD Facility from the MRF, the AD Facility would process SSOW. Initially, the SSOW would be combined with the organic waste recovered from the MSW after processing in the MRF. Subsequently, when sufficient SSOW is available to fill a digester to capacity in a reasonable period of time, the SSOW would be digested and cured separately from the organic waste recovered in the MRF from the MSW.

At the MRF's maximum design capacity of 250,000 tons/per year of MSW, up to 73,600 tons/year (240 tons/day) of MSW organic waste could be conveyed to the AD Facility. Over time, if additional food waste collection programs are implemented (e.g., a residential food waste collection), there could be an increase in the SSOW delivered to the AD Facility that would be offset by a corresponding decrease of organic waste recovered from the MSW and conveyed from the MRF. From the 73,600 tons/year of organics processed in the AD Facility, up to 25,760 tons/year of compost/soil amendment would be produced.

3.5.2.7 Operations and Maintenance

The AD Facility is anticipated to be operated by approximately four (4) full-time employees per eight (8) hour operating shift. The employees are estimated to include: one (1) supervisor/system monitor; one (1) loader/equipment operator; (1) compost windrow specialist; and, one (1) laborer. No additional employees would be required if some of the material is received as SSOW.

The AD Facility would operate 24 hours per day, 365 days per year; however, organic waste recovered from the MSW would only be transferred to the AD Facility while the MRF is operating (up to 311 days/year). If some of the material is received as SSOW, it would generally be received between the hours of 7:00 am and 4:00 pm, 5 days per week. Digesters are anticipated to be filled or unloaded between the hours of 7:00 and 4:00 pm. Digestate transferred to, and cured compost and/or soil amendment transport from the composting area would occur between the hours of 7:00 am – 4:00 pm, 6 days/week.

AD Facility equipment preventive maintenance would be performed daily in accordance with the AD Facility equipment vendor's detailed maintenance and replacement specifications. The AD Facility would have a corrective maintenance and equipment replacement contract with the AD Facility equipment vendor that would provide for on-call, same day maintenance of any non-working equipment. The AD Facility equipment vendor would also maintain a dedicated replacement parts inventory for the AD Facility equipment. AD Facility equipment would be replaced or overhauled on a schedule provided by the AD Facility equipment vendor.

3.5.2.8 AD Facility and Composting Area Equipment

Table 3-4 provides a list of mobile equipment proposed to be used at the AD Facility and composting area.

3.5.2.9 Post-Processing Material Transportation

The finished compost or soil amendment (up to 25,760 tons/year) would be transported from storage piles at the composting area to off-site markets. It is anticipated the majority of the compost/soil amendment would be transported to markets in northern Santa Barbara County. The export trucks would be contracted from a third party company or County-owned with their home base at SCRTS. The material would be transported in a dedicated fleet of compressed natural gas-powered heavy-duty trucks with an approximate 22 ton capacity. Trucks exporting material from the site would likely depart two times per day (at approximately 9:00 a.m. and 1:00 p.m.), up to six days per week. The trucks would park inside the AD Facility loading area and in the parking area east of the MRF building.

Table 3-4. AD Facility and Composting Area On-site Mobile Equipment

Equipment Type	Engine Size – Emissions Design Criteria	Fuel	Number
~~Volvo L110G~~ Caterpillar 938M wheeled loader	169 ~~260~~ BHP - Tier 4	Diesel	~~1~~ 2
~~Volvo L90G~~ Caterpillar 938K wheeled loader	169 ~~173~~ BHP – Tier 4	Diesel	1
Post AD screening (Titech)	Electric	-	1
~~Tracked~~ Ttrommel screen ~~(Screen machine 612T)~~	~~84 BHP – Tier 4~~ Electric	~~Diesel~~ -	1
Wind-sifter, plastic film sorter (Komptech Hurrikan)	Electric	-	1
Windrow turner (Vermeer CT 1010)	215 BHP – Tier 4	Diesel	1
Tub grinder (Morbark 3800)	Electric	-	1
Tennant M30 Scrubber-Sweeper	41 BHP – Tier 4	Diesel	1

3.5.2.10 Energy Facility

Processing of up to 73,600 tons/year of organic waste would produce up to 237 million standard cubic feet of bio-gas per year, to be combusted in the Energy Facility to produce electricity. The Energy Facility is an integral component of the AD Facility, and would be comprised of two (2) Jenbacher/General Electric ~~1,537~~ 1573 horsepower CHP engines driving electric power generators rated to produce a total of approximately 2.2 MW, or an estimated 13,714 MW-hours of base load (continuous) power per year. As noted above, heat extracted from the combustion exhaust of each engine would be used to warm the anaerobic digesters.

The Energy Facility would be located in the AD Facility's CHP engine room attached to the south side of the AD Facility (see Figures 3-10 and 3-11). The Energy Facility would operate 24 hours per day, 365 days per year. A 200-gallon propane storage tank to be located west of the Energy Facility would be provided to provide supplemental fuel flows to the CHP engines to ensure continuous CHP engine operation within manufacturer's specifications during start-up, shut-down and any periods of irregular, below specification bio-gas production from the digesters.

Best available emission control technology in the form of a selective catalytic reduction system would be installed to control CHP engine exhaust emissions as required by the Santa Barbara County Air Pollution Control District. The operations and maintenance of the CHP Engines would be in accordance with the CHP engine manufacturer's specifications. As the AD Facility includes two CHP Engines, it is possible, depending upon the level of bio-gas production from the digesters that a single engine may be capable of processing all of the bio-gas being produced by the digesters allowing for the other CHP engine to go down for regularly scheduled major maintenance of component replacement.

3.5.2.11 Ancillary Facilities (Solar Panels, Power Lines)

Approximately 39,000 sf of solar panels are planned to be located on the roof of the AD Facility (~9,600 sf), the MRF processing area (~17,400 sf) and the MRF tip floor area (~12,000 sf). The solar panel array is estimated to have a power generation capacity of approximately 500 KW. The solar panel array is estimated to produce approximately 800,000 KW-hours/year. The MRF processing equipment is estimated to consume approximately 500-750 KW-hours of electricity or 2,600,000 KW-hours/year initially.

The solar power generation is estimated to produce approximately 500 KW of rated power, 100 percent of the MRF's rated consumption, however, the solar panels' effective generation, based on National Renewable Energy Laboratory modeling for the Resource Recovery Project location at the Tajiguas Landfill, would provide approximately 31 percent of the MRF equipment's power consumption.

The Energy Facility would be connected to the Southern California Edison (SCE) high voltage power transmission lines located immediately south of the landfill through a 480 volt transformer and local transmission lines as specified by the CHP Engine manufacturer. Existing transmission poles to the landfill site would provide a suitable transmission line routing to SCE transmission lines running parallel to U.S. Highway 101; however, it is likely that upgraded lines would be restrung on the existing poles to provide adequate power required by the MRF processing lines equipment and to provide sufficient AD Facility power transmission capacity.

Electrical service is currently available to various areas of the existing landfill. Extensions from these existing lines may need to be constructed to provide service to the composting area, the relocated landfill maintenance facility, and to provide power to proposed Well no. 6. To the extent feasible, new lines/poles would be placed within the existing disturbed areas of the landfill (see Figure 3-4).

3.5.3 Hours of Operation and Number of Employees

Waste would be delivered by truck to the Resource Recovery Project consistent with the landfill's permitted hours of operation, Monday-Tuesday 7:00 am to 5:00 pm and Wednesday – Saturday 7:00 am to 4:00 pm. The MRF would operate up to 6 days per week (up to 311 days/year) and export of recyclables recovered from the MRF would generally occur every day the MRF is operating. Occasionally, maintenance of the MRF may be performed on weekends, including Sunday.

The AD Facility would receive material the same days that the MRF is operating. The AD Facility and Energy Facility would operate 24 hours/day, 365 days per week but employees would only be on site up to 6 days/week. The composting area would receive material and operate 6 days per week. Considering that the 16 digesters would only be loaded/unloaded once every 28 days (approximately 208 times per year), material would only be transferred to the composting area approximately 17 days/month (an average of approximately 4 days/week). Export of finished compost would occur up to 6 days per week.

The project would include three employee working shifts: 7:00 am to 3:30 pm, 3:00 pm to 11:30 pm and 11:00 pm to 7:30 am. In addition to the anticipated MRF and AD Facility employees described in Sections 3.5.1.6 and 3.5.2.7 above, the Resource Recovery Project would also include management and administrative staff operating from offices located within the MRF. The management and administrative staff would likely include the following: one (1) general manager; one (1) controller; one (1) office manager/marketing director; one (1) human resources manager; and three (3) administrative accounts receivables/payables staff (see Table 3-5). The maximum number of MRF, AD Facility, and management/administration staff on-site would be 35, during the day shift. The maximum number of employees on-site would be increased to 55, with the inclusion of CSSR (*optional element*).

It should be noted that the number of existing landfill staff associated with waste disposal would be reduced by six in the long-term, due to the reduction in disposal rates associated with the project.

Table 3-5. Project Staffing Summary

Classification	Number	Hours
Administration	7	7:00 am – 3:30 pm
MRF operations	24	7:00 am – 3:30 pm
MRF operations	24	3:00 pm - 11:30 pm
MRF maintenance	7	11:00 pm – 7:30 am
AD Facility & composting area operations	4	7:00 am – 3:30 pm
Total	**66**	**-**
CSSR option	20	7:00 am – 1:30 pm
Total + CSSR option	**86**	**-**

3.5.4 Site Access, Parking and Transportation Demand Management

The Resource Recovery Project site would be accessed from U.S. Highway 101 via an approximately 1,600 foot long, paved, 24 foot wide private driveway through a gated entrance. Trucks arriving to the Resource Recovery Project site would be required to pass through the landfill's existing manned scale house. Once on the landfill property, the existing paved landfill roads would be used to access the Resource Recovery Project site. Education and community outreach would be an important element of the project and access to the facility or landfill by the general public would be provided by tours and/or site visits scheduled through RRWMD.

Circulation at the Resource Recovery Project site would consist of a 26 foot-wide one-way driveway that would loop around the AD Facility and the MRF in a clockwise direction allowing MSW delivery trucks to deliver waste material directly to the MRF tip floor area (See Figure 3-5). The loop driveway would include fire hydrants and would provide 360° fire vehicle access around the AD Facility and MRF buildings such that all building faces are accessible. Efficient operation of the MRF and ADF Facility is dependent on the efficient circulation of trucks in and out of these facilities. The site layout, driveways and parking areas would be designed with adequate horizontal clearance using American Association of State Highway & Transportation Officials (AASHTO) vehicle templates.

Trucks delivering SSOW to the AD Facility would enter a one-way drive through the delivery area via truck access on the southeast corner of the AD Facility. Trucks receiving digestate following the anaerobic digestion phase for transport to the composting area would access the AD Facility via this same one-way driveway through the AD Facility. Trucks receiving residual waste from the MRF load-out area for transport to the landfill working face would access the load out area via one-way drive through loop driveway immediately east of the MRF building. Trucks to transport finished baled recyclable material to market would access the MRF building via the ~~two~~ four dock-high loading bays on the southeast corner of the MRF building. Recyclable material truck transport loads would be weighed on the scale house at the entrance to the Tajiguas Landfill near U.S. Highway 101 or at the scale in the MRF load-out area.

A vanpool program would be implemented for the new employees working at the MRF and AD Facility to reduce traffic generation as well as provide an employment incentive. The location of the site is well suited for ridesharing, given its isolation and distance from the population centers where employees live. Employee surveys were taken at the existing landfill to ascertain the current level of ridesharing and where employees commute from. The surveys show that most employees currently carpool to and from work; and that most employees live north of the site (Buellton, Lompoc, Santa Maria). The average vehicle occupancy was measured at 1.6, indicating an average of 1.6 employees per vehicle when commuting to and from work. The surveys also show that most ~~all~~ employees do not leave the site during the day, whereas employees in work places within population centers typically leave during their shift to run errands, or visit the doctor, etc. Thus, the existing employee commute information shows that a successful vanpool program could be implemented for the new employees working at the MRF and AD. The Project's vanpool program is anticipated to result in an average vehicle occupancy of 2.5 (average of 2.5 employees per vehicle) for operations staff and 1.6 for administration staff.

Approximately ~~76~~ 72 spaces would be provided for employee and visitor parking (including parking for school and tour buses), mostly located east of the AD Facility.

3.5.5 Utilities

3.5.5.1 Domestic Water

The MRF, AD Facility and associated administrative offices would use approximately 1,745 gallons of water per day for hand-washing, toilet flushing and wash-down of work areas. This value is based on the use of water saving devices such as low volume toilets and aerating faucets. Water for project facilities would be provided by installation of a new groundwater well (Well No. 6) to be completed in the Sespe-Alegria geologic formation. The well would be located in the back canyon area of the landfill property, approximately 800 feet north of the MRF/AD Facility site adjacent to an existing landfill access road (see Figure 3-4). The well would be setback a minimum of 150 feet from the edge of the lined landfill disposal area.

Water lines and electrical transmission lines from proposed Well no. 6 to the MRF/AD Facility site would be located along the toe of the slope west of the Pila Creek concrete channel (see Figure 3-4). Storage for this new water system would be provided by a 220,000 gallon tank shared with the fire protection system. Based on water quality data from wells in these formations, total dissolved solid levels should be within required drinking water standards; therefore, a water treatment system is not expected to be required. Chlorine disinfection may be required to keep the treated water potable and to inhibit algae growth within the storage tank and water mains. If needed, the chlorination unit would be located near the MRF tipping floor ~~AD Facility control room.~~ Bottled water would continue to be brought to the site for drinking water.

The AD Facility percolate tanks would require an initial fill of approximately 300,000 gallons of domestic water. The percolate systems are closed loop and would not require any additional water following their initial fill.

3.5.5.2 Domestic Wastewater

The proposed project includes the installation and operation of an advanced septic treatment system to replace the existing small septic system and portable toilets currently in use. Two advanced, self-contained commercial wastewater treatment units would be installed to treat and disinfect the wastewater so it can be used for spray or drip irrigation of approximately 2.5 acres of landscaped areas adjacent to the MRF and AD Facility.

A treatment unit with a rated capacity of 500 gallons/day would be installed adjacent to the ~~south~~ north side of the AD Facility building and a unit with a rated capacity of 3,500 gallons/day would be installed adjacent to the loading dock at the MRF building (see Figures 3-8 and 3-10). These commercial wastewater treatment units would utilize a concrete storage tank, aerobic oxidation and digestion by micro-organisms, advanced filtration technology and ultraviolet light treatment for disinfection.

Following treatment and disinfection, the effluent would be pumped to a ~~70,000~~ 88,000 gallon recycled water storage tank, to be located adjacent to the proposed water supply tank (see Figure 3-4). The purpose of the storage tank is to store sufficient treated effluent to serve irrigation needs throughout the year and to ensure sufficient storage to avoid effluent discharge during periods of prolonged wet weather. Treated wastewater would be used to drip irrigate a 2.5 acre area located west of the MRF/AD Facility site. The irrigation rates would be controlled automatically by a system that incorporates data received by soil moisture sensors and an on-site weather station. Once the new wastewater systems are installed, the existing septic system would be abandoned. Portable toilets may continue to be used at different locations of the landfill as needed.

3.5.5.3 Composting Process Water Supply

Supplementary water (up to 2,200 gallons per day) would be required to maintain the optimum moisture content of the compost during the curing process. This water would be provided by existing Well no. 5, located approximately 250 feet northeast of the proposed composting area (see Figure 3-4). Water would be applied using a trailer-mounted spray tank, with excess water collected, treated and re-used as described in Section 3.12.2.5.

3.5.5.4 Fire Protection

A 220,000 gallon above-ground water supply tank (approximately ~~36~~ 33 feet in diameter, ~~30~~ 33 feet tall) would be constructed on the ridge northwest of the MRF/AD Facility site to supply both fire flows (1,750 gpm, 2 hour fire duration) and domestic flows (see Figure 3-4). A dedicated fire protection water distribution system would convey the fire flow to the site fire hydrants and to the building sprinkler systems.

3.5.5.5 Electricity

The MRF waste processing equipment, management and administrative office, AD Facility offices and site lighting needs are entirely electric and would be served by a dedicated service meter from SCE. The Resource Recovery Project's electrical demand is estimated to be approximately 500 KW per hour. Approximately 30 percent of the MRF's electrical needs are anticipated to be served by an on-site 500 KW solar panel array located on the roof of the MRF and AD Facility buildings.

Approximately 2 percent of the power generated by the Energy Facility (combusting bio-gas) would be consumed by the AD Facility operations. The on-site rooftop solar panels are estimated to produce approximately 873 MW-hours per year (or approximately 15 percent of the MRF's estimated consumption of 5,918 MW-hours per year). It is estimated that the net power generated by the AD Facility (13,714 MW-hours) would be sold to SCE via a 20-year Power Purchase Agreement. The estimated overall annual net energy balance for the proposed project is summarized below:

Facility	Electricity Generated (MW-hours)	Electricity Consumed (MW-hours)	Net (Electricity Generated less Consumed, MW-hours)
AD, with energy facility	14,032	318	13,714
MRF, with solar panels	873	5,918	-5,045
Other		359	-359
Overall	14,905	6,595	8,310

3.5.5.6 Supplemental Fuel/Propane

The MRF and AD Facility mobile equipment would be fueled from a single 10,000 gallon above ground diesel storage tank. The tank would be approximately 8 feet in diameter and 27 feet long and would include secondary containment. The tank would be approximately 3 feet high, 9 feet wide and 36 feet long and would include secondary containment. The AD Facility would include an on-site 200 gallon propane storage tank (see Figure 3-10) to provide supplemental fuel flows to the CHP engines to ensure continuous CHP engine operation within manufacturer's specifications during start-up, shut-down and any periods of irregular, below specification bio-gas production from the digesters.

3.5.5.7 Emergency Generator

A 150 KW/hour diesel-fueled electrical generator would be installed to the east of the MRF tipping floor bio-filter to provide emergency power. A fuel storage tank would be provided within the generator skid.

3.5.5.8 Exterior Lighting

Exterior lighting would be provided on the Resource Recovery Project buildings and in the parking areas to allow continued operations after dark, accommodate safe traffic flow, and employee safety. No lighting is proposed along the site access roads, and unmanned facilities. The proposed lighting would be dark sky compliant, full cut-off lighting fixtures (as defined by the Illuminating Engineering Society of North America) and ~~consist or energy efficient lights~~ positioned to minimize off-site impacts ~~by being directed inward and downward with appropriate shielding and way from~~ to U.S. Highway 101, Baron Ranch and from nearby habitat areas.

3.5.6 Project Construction

Construction of the MRF is projected to take approximately twelve months to complete following 4 months of grading and site preparation. Construction of the AD Facility is projected to take approximately twelve months to complete and would be completed concurrently with the MRF. Construction work would generally be conducted during daylight hours, in compliance with the County permitted landfill construction hours of 6:00 am to 8:00 pm, Monday through Saturday, and 7:00 am to 6:00 pm on Sunday[9]. Non-daylight work hours on weekdays or daytime work on Saturdays and holidays may occur to minimize conflicts with ongoing landfill waste disposal operations, make up schedule deficiencies and/or to complete critical construction activities safely, such as MRF equipment installation and testing. If necessary to meet the specific construction requirements for the Resource Recovery Project, two 8-hour shifts, Monday through Friday between the hours of 6 a.m. and 10 p.m., and potentially on Saturdays and holidays may be implemented.

[9] Sunday construction limited to maximum of 20 days/yr.

As noted previously, during construction, landfill operations facilities, equipment and fuel storage would be relocated to other areas of the landfill property. As is currently required for landfill construction projects pursuant to 01-EIR-05 measures AQ-1 and AQ-3, standard APCD fugitive dust control and diesel particulate and NO_x emissions measures would be implemented during project construction.

3.5.7 Site Design and Grading

The MRF/AD Facility site would be located at the existing landfill operations deck, which is partially underlain by a closed portion of the landfill, including buried waste. The current operations deck would be enlarged by grading into the adjacent West Borrow Area to create building pads large enough to accommodate the MRF and AD Facility, and avoid the waste footprint. The MRF and AD Facility building locations and building floor elevations were carefully designed to meet the goals of balancing the site grading and to get as much of the building footprint onto cut as possible, thus minimizing pile foundation system costs required for portions of the heavy structures on fill adjacent to a closed landfill cell.

The tipping floor/waste delivery area was designed to be 16 feet above the waste processing and storage floor (see Figure 3-9) to shorten the conveyor belts that feed the waste and recyclable sorting system. The tipping floor elevation was also selected to minimize retaining wall heights relative to the adjacent hillside as well as to minimize export of excess fill from the MRF/AD Facility site to the landfill for use as daily cover. Thus, the selected floor elevations would maximize the efficiency of the MRF layout and minimize the size of the MRF building, minimize the size and cost of retaining walls, minimize earth moving costs and minimize emissions of earth-moving vehicles during construction.

Construction of the MRF/AD Facility site would require approximately ~~107,200~~ 142,600 cubic yards of cut and ~~81,200~~ 89,400 (102,765 with 15% compaction) cubic yards of fill to increase the pad height of the operations deck by up to 20 feet for a maximum finished pad elevation of 394 feet above msl. Grading would be balanced at the landfill site. Finished slopes in the West Borrow Area would not exceed 2:1 ~~2.5:1~~ (see Figure 3-6).

The composting area would also be located on the closed landfill waste footprint and would likely experience future settlement. No permanent structures are proposed in this area. Asphalt paving, piping, other support facilities in this area and operational procedures would be designed to account for differential settlement and to address landfill post-closure maintenance and monitoring requirements. A monitoring and maintenance program would be implemented to ensure that project facilities located over the closed landfill would not be damaged by differential settlement and that Resource Recovery Project operations would not damage the landfill cover system.

3.5.8 Drainage

Drainage from the Resource Recovery Project site would be conveyed to planned or existing storm drain inlets which drain into existing storm drains. These storm drains are located beneath the operations deck (west of the landfill waste footprint) and discharge into the natural channel of Pila Creek at the southern end of the landfill property. The MRF/AD Facility site would be provided with drainage facilities (v-ditch, storm drains, filtration unit) as shown on Figure 3-6.

3.5.9 Nuisance Management

3.5.9.1 Vector Management

Similar to existing landfill operations, waste processing activities at the Resource Recovery Project site could attract wildlife species such as gulls, common ravens and American crows, and nuisance mammals such as rats, opossums, raccoons, skunks, red foxes, and feral cats which would not be normally found at the site and could become nuisances. Therefore, the Resource Recovery Project would include development and implementation of a Vector Management Plan (VMP).

The VMP would focus on good housekeeping, minimizing accessibility of organic waste to nuisance species so that these species are not attracted to the facility, and for insects and rodents, on minimizing features that would support breeding by and refugia for these species. Because completely eliminating access to food waste and refugia for nuisance species may not be feasible, the VMP would also include measures to capture and remove individual nuisance mammals and treat areas with nuisance insects. The VMP would be designed to be adaptive, and include some monitoring of the presence and/or abundance of individual nuisance animals and increasingly more stringent measures to limit accessibility of wastes to these animals.

3.5.9.2 Litter Management

Tipping of the MSW within the MRF building will limit the potential for plastic and paper waste to be carried by the wind. However, similar to existing landfill operations, the Resource Recovery Project would include development of a litter control program (LCP). The LCP would include measures to prevent fugitive waste from leaving the Resource Recovery Project site, or escaping from delivery trucks arriving or departing from the MRF, AD Facility buildings and the Composting Area. As is currently required for landfill operations, all trucks delivering waste to the MRF and AD Facility would be required to have their loads covered with tarps or the loads must be in enclosed trucks[10].

[10] Section 17-4(b), Chapter 17, Santa Barbara County Code requires that all incoming loads to the landfill be covered with tarps or other secure materials. Trucks that arrive at the landfill without their loads covered are assessed an additional fee. The CHP can also ticket vehicles that are transporting material to the Landfill uncovered.

Waste delivery (tipping) areas at the MRF and AD Facility would be completely enclosed and access doors would be shut except during peak delivery hours. Drainage inlets installed around the project site would be screened[11]. Trucks transporting residual waste from the MRF to the working face of the landfill disposal area would also be covered or screened to prevent wind-blown litter and manual litter pickup would occur along the route from the MRF to the landfill working face. Landfill staff would continue to be responsible for monitoring and picking up litter along U.S. Highway 101 near the landfill entrance.

3.5.9.3 Odor, Dust and VOC Management

Similar to the existing landfill operations, waste processing activities in the MRF and AD Facility have the potential to generate odor due to the potential presence of decomposing organic waste (putrescible waste) and as required under the Solid Waste Facility Permit, the Resource Recovery Project would include development and implementation of an Odor Impact Mitigation Program (OIMP). To limit off-site odors, mixed MSW and SSOW would be tipped inside the enclosed negative pressure MRF building and AD Facility, respectively. Air within the buildings would be filtered through high volume, bio-filter[12] based air filtration systems to control odors and dust collection units to collect dust and particulates.

The organic waste would be anaerobically digested in the enclosed air-tight digesters for approximately 42 to 56 days. At the conclusion of the anaerobic process, after the high quality bio-gas has been extracted for beneficial use (energy production), a controlled purging process would direct the residual gases in the digestion chamber to a flare. The flare would function as an odor control device to destruct the potentially odorous residual gases in the chamber prior to opening the chamber doors and removing the digestate.

Following the enclosed anaerobic digestion phase and bio-gas extraction, the digestate would be transferred to the open air composting site. The digestate would have significantly reduced putrescible/odor generating material present as compared to a traditional aerobic windrow composting operation.

[11] In addition to controlling litter at the source, trash racks are currently present within lower Pila Creek to prevent material from being transported off-site.

[12] Bio-filters lend themselves to all waste gas cleaning applications involving air pollutants that are readily biodegradable. Biodegradation of the pollutants is accomplished by micro-organisms colonizing on solid support media (such as chopped wood and wood bark, root wood, lava or other structure-giving materials). As the waste gas passes through the bed of media, the pollutants are absorbed onto the surface of the filter media where they are degraded by micro-organisms.

In addition, odor emissions during final curing would be minimized through proper management of an aerobic environment in the compost windrows, compost windrows would be watered immediately after turning events to minimize odors generated by exposure of the interior of the windrows, turning of the compost windrows would be avoided when the predominant wind direction is from the north (towards populated areas), and other odor management best management practices such as application of mulch layers, application of deodorants and proper moisture control would be implemented.

Due to the intermittent nature of nuisance odors, and adaptive approach would be implemented in the OIMP. The OIMP would include standard procedures for monitoring and recording periods of unusual odors, responding to odors, logging any complaints, responding to complaints, and documentation of complaint response and any follow-up measures.

Best Available Control Technology (BACT) for digestate composting would be implemented, consisting of:

- Blending digestate with 20 percent inert dry wood chips;
- Interactive pile management (compost pile turning);
- 20 minutes irrigation after pile turning;
- Large pile size; and
- Application of finished compost to the new compost piles to act as a pseudo bio-filter.

Implementation of these BACT measures is anticipated to achieve a further reduction in VOC emissions of 90 percent.

3.5.10 Tajiguas Landfill Operations

Continued operation of the Tajiguas Landfill is an integral component of the Resource Recovery Project. Up to 120,000 tons/year (391 tons/day) or 124,000 tons/year (404 tons/day) with inclusion of the CSSR [*optional element*][13] of non-processable/bypass waste, and residue from the MRF and AD Facility would be disposed of at the Tajiguas Landfill, including:

- 90,000 tons/year processed MSW residue recovered from the MRF;
- 10,000 tons/year non-compostable residue from the AD Facility;
- 20,000 tons/year non-processable/bypass waste (MSW); and
- 4,000 tons/year residue from CSSR processing (optional element).

[13] Assuming the landfill operates 307 days/year.

However, the currently permitted disposal capacity of 1,500 tons/day would be retained to provide flexibility in the event of a natural or man-made disaster or in the event of a prolonged facility shutdown where additional waste may need to be bypassed. Under the proposed project, the total incoming material entering the landfill site and processed or buried at the site would not exceed 1,500 tons per day.

The Tajiguas Landfill currently receives waste from the Public Participants and is fully permitted and operational. The landfill operates under the following permits[14]:

- Solid Waste Facility Permit 42-AA-0015 issued ~~October 20, 2009~~ February 10, 2014;
- Waste Discharge Requirements Order Number R3-2010-0006 adopted February 4, 2010;
- Permit to Operate No. 9788-R3 and Part 70 Operating Permit No. 9788-R3 issued December 22, 2010; and
- Industrial Storm Water Permit No. 3 42S000451 issued October 23, 1992.

Landfill operations would remain similar to existing operations, but reduced in scope due to the reduced volume of waste being buried. Waste collected from the communities served by the landfill would continue to be delivered to the landfill. Waste trucks would access the site and landfilling of residual waste would occur during the currently permitted operating hours[15] of 7:00 a.m. to 5:00 p.m., Monday and Tuesday and 7:00 a.m. to 4:00 p.m., Wednesday through Saturday. The trucks would be weighed and assessed at the existing scale house at the entrance to the landfill. After being weighed, the waste would either be sent to the Resource Recovery Project site for further processing or, if unsuitable for processing, sent to the landfill for burial. Residue from the MRF processing activities would be weighed again and loaded onto landfill transfer trucks and brought to the landfill working face for burial.

Landfill operations would include processing of SSOW, which currently arrives at the site as green-waste and the landfill's existing solid waste facility permit allows up to 145 tons/day of green-waste processing (grinding into mulch). Under the proposed project, and with the potential implementation of additional recycling programs, up to 240 tons/day of SSOW (green-waste, food waste, or mixed green and food waste) would be processed. Depending on the composition of the SSOW it would either be ground into mulch, processed in the AD Facility or a combination of the two.

[14] The Landfill also operates under permits from the California Department of Fish and Wildlife, Regional Water Quality Control Board, Army Corps of Engineers and a Section 7 Biological Opinion from the U.S. Fish and Wildlife Services for construction activities involving Pila Creek.

[15] Cover, compaction, construction, maintenance and special occurrences are permitted to occur outside of these hours.

Construction of the Resource Recovery Project would not modify the following operational components of the landfill's existing Solid Waste Facility Permit (see Table 3-2): landfill hours of operation, permitted maximum tonnage (1,500 tons/day), refuse design capacity (23.3 million cubic yards), permitted waste disposal footprint (118 acres), maximum elevation (620 feet above msl), environmental protection and monitoring systems, green-waste processing, and closure and post closure maintenance activities. However, the Solid Waste Facility Permit would need to be revised to include the Resource Recovery Project facilities and operations or a new permit issued for the facilities. It is anticipated that the majority of the remaining landfill groundwater protection systems (liners) for the remaining permitted waste disposal areas would be installed prior to operations beginning at the Resource Recovery Project.

Landfill-related documents such as the Joint Technical Document and the Closure and Post Closure Maintenance Plans may need to be amended to reflect the operation of the Resource Recovery Project facilities, to identify post closure uses of the landfill, reflect changes in the landfilling activities due to the reduced waste volume and to address the changes in the timing of closure activities due to the extension of the landfill's life. New documents, such as a Transfer Processing Report ~~Report of Station Information~~ and Report of Composting Site Information, would need to be prepared as a part of the Solid Waste Facility Permit. While the life of the landfill would be extended, portions of the existing landfill would continue to undergo phased closure as capacity is reached.

RRWMD employs a full-time staff of approximately 18 employees at the landfill. In addition, the County typically engages a crew of four contracted employees for litter removal and special projects such as winter preparedness. It is estimated that following implementation of the Resource Recovery Project, landfill staff would be reduced to the equivalent of 14 full-time employees and 2 contract employees. During construction of the Resource Recovery Project facilities, the landfill would continue to operate and landfill administrative offices, fuel storage and equipment storage and all other facilities currently located on operation's deck would need to be temporarily relocated to another area of the landfill property (see Figure 3-4).

It is anticipated that landfill operations trailers, fuel tanks, hazardous material storage and equipment storage would be temporarily relocated to an area northeast of the top deck or in the southern portion of the landfill (see Figure 3-4) during the project construction period. Following completion of project construction, the temporary landfill operations trailers would be removed from the site. Landfill operations offices would be included in the new Resource Recovery Project facilities and storage for landfill equipment, fuel and supplies would be provided back on the operations deck.

The landfill maintenance shop, which is currently located in the southern portion of the site (within the coastal zone), and was planned to be relocated to the operations deck as a part of the phased landfill closure, would now be relocated to an area north of the top deck (see maintenance building on Figure 3-4), outside of the waste footprint[16]. A small water tank (approximately 10,000 gallons) would also be installed to provide fire protection/water supply for the maintenance building. The tank would be placed in an existing disturbed area, below the ridgeline in the vicinity of the proposed composting area run-off collection tank. During and following construction, large equipment associated with landfill operations would be parked adjacent to the landfill working face.

3.5.11 Recycling and Transfer Station Operations

RRWMD manages four recycling and transfer stations in different areas of the County; South Coast, Santa Ynez Valley, New Cuyama and Ventucopa. Recycling and transfer stations are facilities where solid waste is sorted, when appropriate, and solid waste and CSSR is stored temporarily before being sent to its final destination. Commercial waste haulers and individuals who self-haul their waste can take their waste to these locations.

Self-haul MSW and green-waste is currently transferred from the SCRTS and the SYVRTS to the Tajiguas Landfill. At the transfer stations, MSW and green-waste is consolidated separately into County waste transfer trucks with an approximate 20 ton capacity for transport to the Tajiguas Landfill. The MSW is buried at the landfill and the green-waste is processed into mulch and sold for agricultural, landscaping and other uses. MSW from New Cuyama and Ventucopa is brought to MarBorg Industries' transfer facility in the City of Santa Barbara for sorting and trash is transferred to the Tajiguas Landfill.

On the south coast of Santa Barbara County, CSSR from the County's existing collection programs is also brought to the SCRTS, loaded into County transfer trucks and transported for off-site processing. Currently, the CSSR are transferred from the SCRTS to the Gold Coast facility in Ventura for processing. Operation of the County transfer stations would continue as currently conducted with the addition of the Resource Recovery Project at the Tajiguas Landfill. However, as a part of the *optional element* of the proposed project, CSSR collected at SCRTS would be transferred to the Resource Recovery Project at Tajiguas for processing. Only a small amount of CSSR is collected at the SYVRTS and this material is not proposed to be processed at the Resource Recovery Project. No changes to the Solid Waste Facility permits for these facilities are anticipated in association with the Resource Recovery Project.

[16] The maintenance facility is a part of the historic landfill operations.

3.5.12 Resource Recovery Project Administration and Contractual Agreements

The Resource Recovery Project would be designed, permitted, financed[17], built, owned, and operated by the project vendor ~~(Mustang)~~ via a public-private partnership structure, pursuant to Government Code Section 5956.4 et seq. and other provisions of law. The term of the contract(s) would commence on the contract date and would remain in effect until the completion of twenty (20) years of operation. If the project vendor ultimately finances and owns the facility, ~~T~~the contract(s) between the Public Participants and the vendor ~~Mustang~~ would include an option for the Public Participants to purchase the Facility from the vendor ~~Mustang~~ at the end of the contract term or earlier in order to provide long term financial stability to the public rate payers. If the Public Participants do not exercise their option to purchase the Facility, the County would have the right to require the vendor ~~Mustang~~ to remove the Facility from the Tajiguas Landfill site and restore the site. If the facility is publicly financed and owned, the objective for long-term rate stability is expected to be met and the Public Participants can evaluate the best use of the facility after 20 years of operation. The Resource Recovery Project operational areas at the Tajiguas Landfill would be leased to the vendor ~~Mustang~~ under a site lease agreement (or equivalent) between the County and the vendor ~~Mustang~~. ~~The term of the contract would commence on the contract date and would remain in effect until the completion of twenty (20) years of operation.~~

The vendor ~~Mustang~~ would be responsible for the cost associated with transporting residue and bypassed waste from the Resource Recovery Project for disposal at the Tajiguas Landfill. Landfill service to the Resource Recovery Project would be provided by the County (RRWMD) under a Landfill Disposal Agreement or equivalent agreement. The vendor ~~Mustang~~ would be responsible for marketing all products and materials generated, recovered or beneficially used. The vendor ~~Mustang~~ would be responsible for the cost associated with transporting and disposing of, at the Tajiguas Landfill, any such materials that are not successfully marketed.

As previously discussed, the Public Participants are the County of Santa Barbara and the cities of Santa Barbara, Buellton, Goleta and Solvang. It is anticipated that the administrative and contractual agreements ~~would~~ may be administered through a legal arrangement such as a Joint Powers Authority (JPA) or directly with the County who would have a single waste services agreement with the vendor. ~~The Public Participants would enter into agreements to form a JPA and the JPA would~~ The individual participating jurisdictions would have separate waste supply agreements with either the JPA or the County. If a single jurisdiction chooses not to participate in the JPA, or contract with the County, it will have a waste service agreement directly with the vendor ~~Mustang~~. It is anticipated that the JPA would designate the County (RRWMD) to provide Contract administration and day-to-day operational oversight of the facility. The final structure for the administration and contractual agreements will be determined at a later date[18].

[17] Financing includes a combination of mechanisms such as private equity, debt service, or public funding, potentially affecting ownership.
[18] The financing, administration and contractual agreements are administrative items that do not have an effect on the environment.

3.5.13 Resource Recovery Project Decommissioning

Continued use of the Resource Recovery Project facilities beyond the initial 20-year contract term is speculative and not reasonably foreseeable at this time. Waste management technologies are rapidly evolving and technologies that are infeasible today may be feasible at the end of the 20-year project term and may be considered for implementation at that time. Prior to the end of the contract term, the County would need to identify future waste management options/plans for the solid waste disposal needs currently served by the Tajiguas Landfill and to be served by the Tajiguas Resource Recovery Project in compliance with CalRecycle requirements and complete additional CEQA review for those plans. At the end of the end of 20 years of operation (approximately 2036), the Resource Recovery Project facilities would be decommissioned and removed or, alternatively, reused for some form of continued waste management or for some other use based on further discretionary review and approval by the County, JPA and any necessary associated State approvals.

If the project is privately financed, a~~As~~ a part of the lease agreement, the vendor ~~Mustang~~ would be required to establish and maintain a financial assurance that is adequate to assure the Public Participants that it would be, at all times, financially capable of complying with the requirement to demolish and remove the Resource Recovery Project facilities, and restore the project site to a condition reasonably equivalent to its condition before construction of the project.

For purposes of the EIR analysis the facilities are assumed to be removed; however, given the project's distant time frame for decommissioning activities, it is too speculative to provide details describing specific decommissioning activities and potential impacts that could occur far into the future. As such, the description and evaluation of decommissioning is limited by what decommissioning activities can reasonably be expected at the time of the writing of this EIR. It is assumed that environmental impacts generated during future decommissioning would be similar to (but less than) the environmental impacts generated during the construction phase of the proposed project.

Specific issues related to decommissioning that are not known at this time include the future physical conditions of the area surrounding the landfill property, future air basin characteristics with regard to air quality and GHG emissions, the location of future sensitive receptors, future traffic patterns and roadway conditions, future public service levels, and future regulations that may govern environmental resources.

Prior to decommissioning, waste disposal would have terminated at the Landfill and any residual waste would be buried in preparation for final closure of the Landfill and any remaining recyclable material or compost would be transferred to off-site markets. The decommissioning is expected to primarily involve the dismantling, re-purposing, salvaging/recycling, or disposal of the above-ground Resource Recovery Project buildings and facilities (e.g., percolate tanks, bio-filters, etc.) on the Operations Deck.

The percolate storage tanks, fuel tanks and wastewater tanks would be emptied and the contents disposed of in accordance with applicable regulations and the tanks salvaged. Containment systems associated with these tanks would remain in place while the tanks are emptied to prevent any off-site release. The concrete building pads would remain. The equipment within the buildings would likely be salvaged and resold. Generally, the asphalt paving would not be removed as the deck would continue be used for landfill post-closure activities and possibly landfill equipment storage. The underground utilities may be removed and/or properly abandoned in place. The subsurface building foundation system would be abandoned in place. The recycled water tank, the water tank, and Well 6 would likely be retained for closure and post-closure landfill use.

At the Composting Area, the litter fence, tarp storage unit, the baker and other tanks would be salvaged/recycled or disposed of. The composting area runoff collection tank would be left in place and used for landfill post closure water storage needs. Above-ground pipelines would be removed and recycled or disposed of. Below-ground lines would be properly abandoned in place, or removed and recycled or disposed of. The pavement system in the composting area would be retained and the area may be used for landfill closure and post-closure equipment and materials storage.

All work would be completed in compliance with storm water quality, air quality and other regulatory agency permit requirements in effect at the time decommissioning. It is assumed these regulations would at a minimum include current requirements such as dust and criteria air pollutant emissions control measures (as listed in Section 4.2.2.4) and implementation of construction-related water quality BMPs, preparation of SWPPPs and monitoring and reporting storm water quality (as listed in Section 4.10.2.4). All areas located above the landfill would be inspected to ensure that the decommissioning activities did not damage the landfill's final cover system, and if damaged, the cover system would be restored/repaired pursuant to the requirements of CalRecycle and the State Water Resources Control Board.

3.5.14 Countywide Integrated Waste Management Plan

As a part of the proposed project, the County would amend the Non Disposal Facility Element of the Countywide Integrated Waste Management Plan to include both the MRF and AD Facility. This document lists all solid waste facilities that are not landfills or hazardous waste collection centers.

3.6 CUMULATIVE PROJECTS

Section 15130 of the State CEQA Guidelines requires a discussion of cumulative impacts, and determination of the project's contribution to identified cumulative impacts. The project's contribution must be viewed when added to the effects of past projects, the effects of other current projects, and the effects of reasonably foreseeable future projects.

The discussion of cumulative impacts must reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great of detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary for an adequate discussion of significant cumulative impacts:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, OR
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency.

The cumulative impacts discussion of this SEIR is based on a list of other projects that may generate impacts to which the proposed project may also incrementally contribute. The following is a list of other projects in the region (south coast of Santa Barbara County, west of Santa Barbara) that may be implemented at about the same time as the proposed project. The site location of other projects considered in the cumulative impacts analysis is provided in Figure 3-13. The capital letter included in each cumulative project title corresponds to the map code provided in Figure 3-13.

3.6.1 Transportation Projects

The list of projects in the ~~2011~~ 2015 Federal Transportation Improvement Program and local projects developed by the Santa Barbara County Association of Governments was examined to identify other projects in the region.

- San Jose Creek Bikeway South (A, under review by the City of Goleta): bike path along San Jose Creek between Hollister Avenue and Atascadero Creek – 17.8 miles east of the Tajiguas Landfill;
- Fowler Road and Ekwill Street Extension (B, approved): roadway extensions between Fairview Avenue and Kellogg Avenue – 17.0 miles east of the Tajiguas Landfill;
- Santa Barbara County Rail Siding Project (C, under review by Caltrans, <u>construction is not currently funded</u>): segments of parallel railroad tracks along the Surfliner Route – likely within 3 miles of the Landfill;
- Hollister Avenue Improvements (D, under review by Santa Barbara County, <u>construction is not currently funded</u>): roadway reconstruction between San Antonio Road and State Route 154 – 19.7 miles east of the Tajiguas Landfill; and

- Gaviota Curve Realignment (X, ~~under review by~~ ~~NEPA~~ environmental review complete by Caltrans, construction planned for 2016/2017): realignment of U.S. 101 to improve safety, from north of the Beckstead overcrossing to south of the Gaviota tunnel – 5.4 miles west of the Tajiguas Landfill.
- Hollister Avenue Bridge Replacement at San Jose Creek (Y, in development by Santa Barbara County, construction programmed for 2017/2018) – 17.8 miles east of the Tajiguas Landfill.
- Six new two-lane bridges on Refugio Road over Refugio Creek (Z, in development by Santa Barbara County, construction programmed after 2018) – 3.2 miles east of the Tajiguas Landfill.
- Sandspit Road Bridge Replacement at the Goleta Slough (AA, in development by Santa Barbara County, construction programmed after 2018) – 17.2 miles east-southeast of the Tajiguas Landfill.

3.6.2 Development Projects

The following list of cumulative projects was provided by the Santa Barbara Planning and Development Department for the Gaviota Coast Region. Note that some of these projects may be constructed and/or occupied prior to implementation of the proposed project (~2017 ~~2016~~).

- Bean Blossom Lot H Residence (E, approved~~/under~~ construction complete): 13,884 square foot single-family residence and guest house on a 109.56 acre parcel (APN 081-200-032, 14200 Calle Real), ministerial (no CEQA document prepared) – 1.6 miles east of the Tajiguas Landfill;
- Bean Blossom Lot X Residence (F, approved~~/under~~ construction complete): 17,605 square foot single-family residence and guest house on a 287.36 acre parcel (APN 081-210-047, 14200 Calle Real), ministerial (no CEQA document prepared) – 2 miles east of the Tajiguas Landfill;
- El Capitan Canyon Campground Relocation and Development (G, approved, pending amendment for new barn): add 40 campsites and convert a 5,716 square foot service building to retail, food and guest service uses on a 196.31 acre parcel (APN 081-250-014, 11560 Calle Real), Negative Declaration prepared – 6 miles east of the Tajiguas Landfill;
- Gaviota Marine Terminal and Oil Storage Terminal Demolition (H, demolition complete, soil investigation completed, further remediation planned ~~in progress~~): demolition of oil storage facilities on APN 081-130-060 – 4.2 miles west of the Tajiguas Landfill;
- Hart Farm Employee Dwelling (I, building permit withdrawn): 1,600 square foot farm employee dwelling on a 24.24 acre parcel (APN 081-150-033, 14610 Terra Vista Drive), ministerial (no CEQA document prepared) – 0.2 miles south of the Tajiguas Landfill;

- Hart Single-Family Residence (J, approved/~~under~~ construction initiated then suspended): 4,885 square foot dwelling and 797 square foot guest house on a 24.24 acre parcel (APN 081-150-033, 14640 Terra Vista Drive), ministerial (no CEQA document prepared) – 0.2 miles south of the Tajiguas Landfill;
- Larralde Residence (K, approved/~~under~~ construction complete): 2,914 square foot single-family residence and guest house on a 22 acre parcel (APN 081-040-028, 2169 Refugio Road), ministerial (no CEQA document prepared) – 4.2 miles northeast of the Tajiguas Landfill;
- Las Varas/Edwards Ranch (L, denied on September 1, 2015 ~~under review~~): reconfiguration of 9 lots (1,784 acres total) to create seven lots (10045 Calle Real), each with a 2.5 to 5 acre residential building envelope and infrastructure improvements, Revised Final EIR completed in July 2014 ~~in re-circulation~~ – 8.4 miles east of the Tajiguas Landfill;
- Paradiso del Mare Ocean and Inland Estates (M, approved in February 2014 ~~biology section of EIR in re-circulation~~): one single-family residence on a 64.80 acre parcel (APN 079-200-004) and one single-family residence on a 77.90 acre parcel (APN 079-200-008) – 11.5 miles east of the Tajiguas Landfill;
- Santa Barbara Ranch (N, 40 residential lots ~~inland development~~ approved, coastal development agreement rescinded): proposed 71 new large lot single-family dwellings (50 inland, 21 coastal), equestrian center and agricultural support facilities on Dos Pueblos and Santa Barbara Ranches totaling 3,249 acres, EIR certified – 9.7 miles east of the Tajiguas Landfill;
- Schulte/Dos Pueblos Ranch Lot Line Adjustment (O, approved ~~under review~~): parcel reconfiguration to facilitate development approved under the Santa Barbara Ranch project – 9.6 miles east of the Tajiguas Landfill;
- Simon Residence (P, approved, not constructed): 2,800 square foot single-family residence and guest house on a 47.70 acre parcel (APN 081-150-028, 15000 Calle Real), ministerial (no CEQA document prepared) – 1.1 miles west of the Tajiguas Landfill;
- Stoltman Residence (Q, approved & constructed): 3,996 square foot single-family residence on a 10.03 acre parcel (APN 081-260-004, 420 Calle Lippizana Road), ministerial (no CEQA document prepared) – 7.3 miles east of the Tajiguas Landfill;
- Zacara Ranch Development Plan (R, under review): legalize unpermitted development and add new residences on a 201.08 acre parcel (APN 081-250-016, 10920 Calle Real), ~~CEQA document undetermined~~ – 6.8 miles east of the Tajiguas Landfill;

- Canada El Capitan Oaks (S, approved, not constructed): new single-family dwelling, guest house and barn on a 120 acre parcel (APN 081-240-048, 500 Calle Lippizana Road), ministerial (no CEQA document prepared) – 7.3 miles east of the Tajiguas Landfill; and

- Southern California Gas Storage Enhancement Project (T, approved June 2013): new wells to extract natural gas from untapped deep reservoirs (APN 171-210-001, 1171 More Ranch Road), EIR completed, initial wells completed ~~recirculation planned in late 2012~~ – 18 miles east of the landfill.

3.6.3 Restoration and Remediation Projects

- Gaviota Holdings Habitat Restoration (U, under review): implementation of a habitat restoration plan on 60 acres (APN 079-200-005, 8555 Highway 101) to offset 7.45 acres of unpermitted habitat removal, MND under review ~~in preparation~~ – 3.8 miles west of the Tajiguas Landfill; and

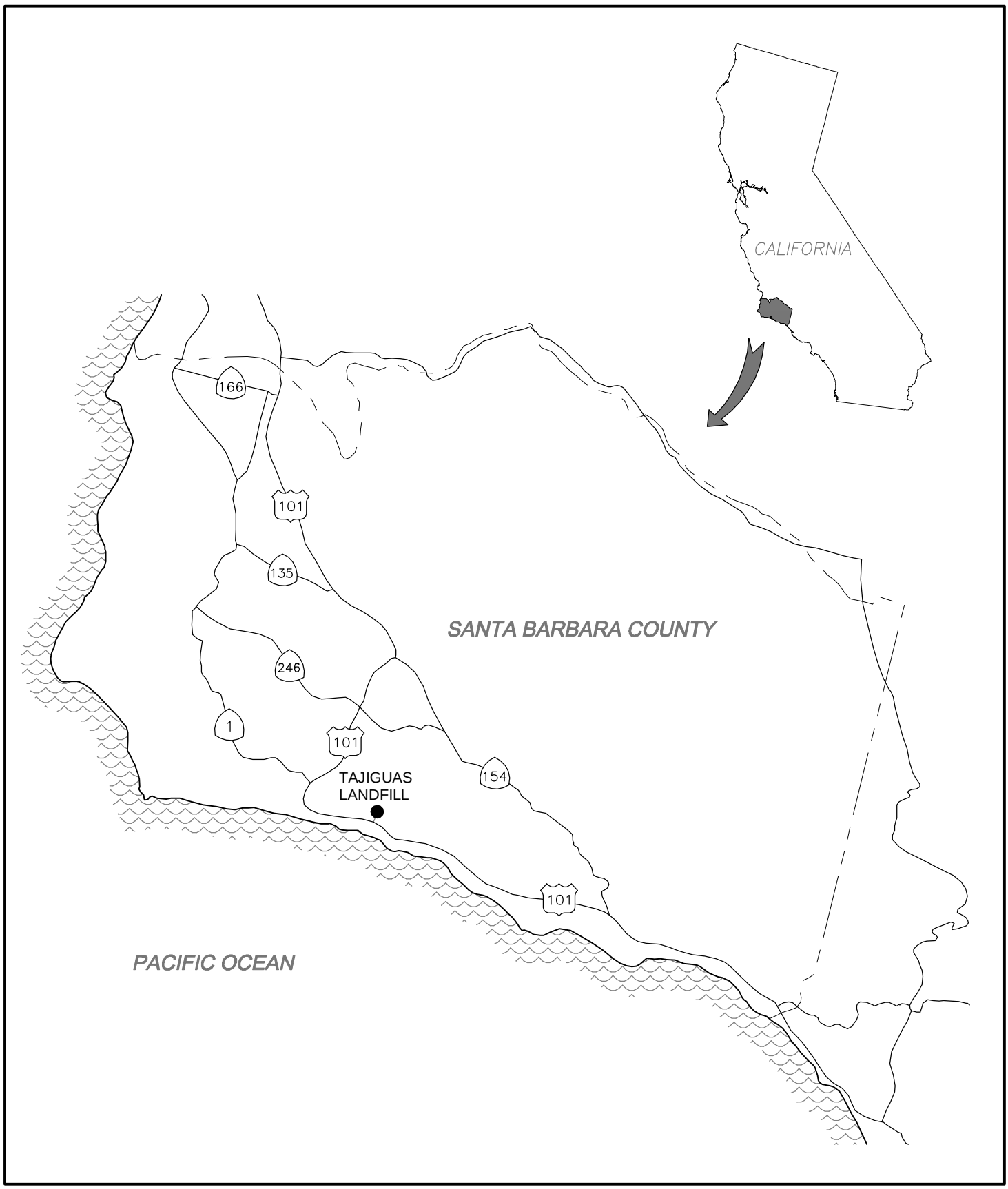
- Shell Hercules Remediation and Slope Stabilization (V, Ecological Risk Assessment completed, project under review): continuation of site remediation of a State Superfund site (APN 081-150-041, 14730 Calle Real) for poly-cyclic biphenyls (PCB), mercury and hydrocarbons, MND completed by Department of Toxics and Substances Control – 0.2 miles west of the Tajiguas Landfill. Planned remediation includes the excavation and removal of PCB-impacted soils. Soils containing elevated concentrations of PCBs will be removed and disposed of at approved off-site waste disposal facilities. Soils with lower levels of PCBs will be managed in-place, utilizing soil and erosion control best management practices, including applying appropriately approved and designed volumes of soil cover. Following the removal of PCB-impacted soils, the site will be re-graded to resemble the current natural conditions observed in similar canyons in the area. Grading of the site will include the removal of the Fill Pad, which consists of fill material up to 45 feet deep, placed during the original construction of the Gas Plant. Approximately 100,000 cubic yards of soil will be managed during planned remedial activities.

3.6.4 Other Public Projects

- Baron Ranch Trail Extension (W, under Forest Service NEPA review): 3.5 mile extension of the County's existing Baron Ranch Trail into the Los Padres National Forest, draft Environmental Assessment completed in February 2015 – 0.5 miles northeast of the Tajiguas Landfill; and

- Gaviota Coast Plan (under review): long-term land use plan for the County's Gaviota Coast Planning Area (about 100,000 acres), ~~CEQA document expected to be released for public review in 2014~~ EIR comment period ended September 4, 2015 - planning area surrounds the Tajiguas Landfill.

- Lower Baron Ranch Trail Improvements (W, under review): realignment of the lower trail to the west side of Arroyo Quemado, including a pedestrian bridge. In addition, the hours of operation would be expanded and opened to all bike and pedestrian users.



SOURCE: Santa Barbara County Resource Recovery and Waste Management, 2012

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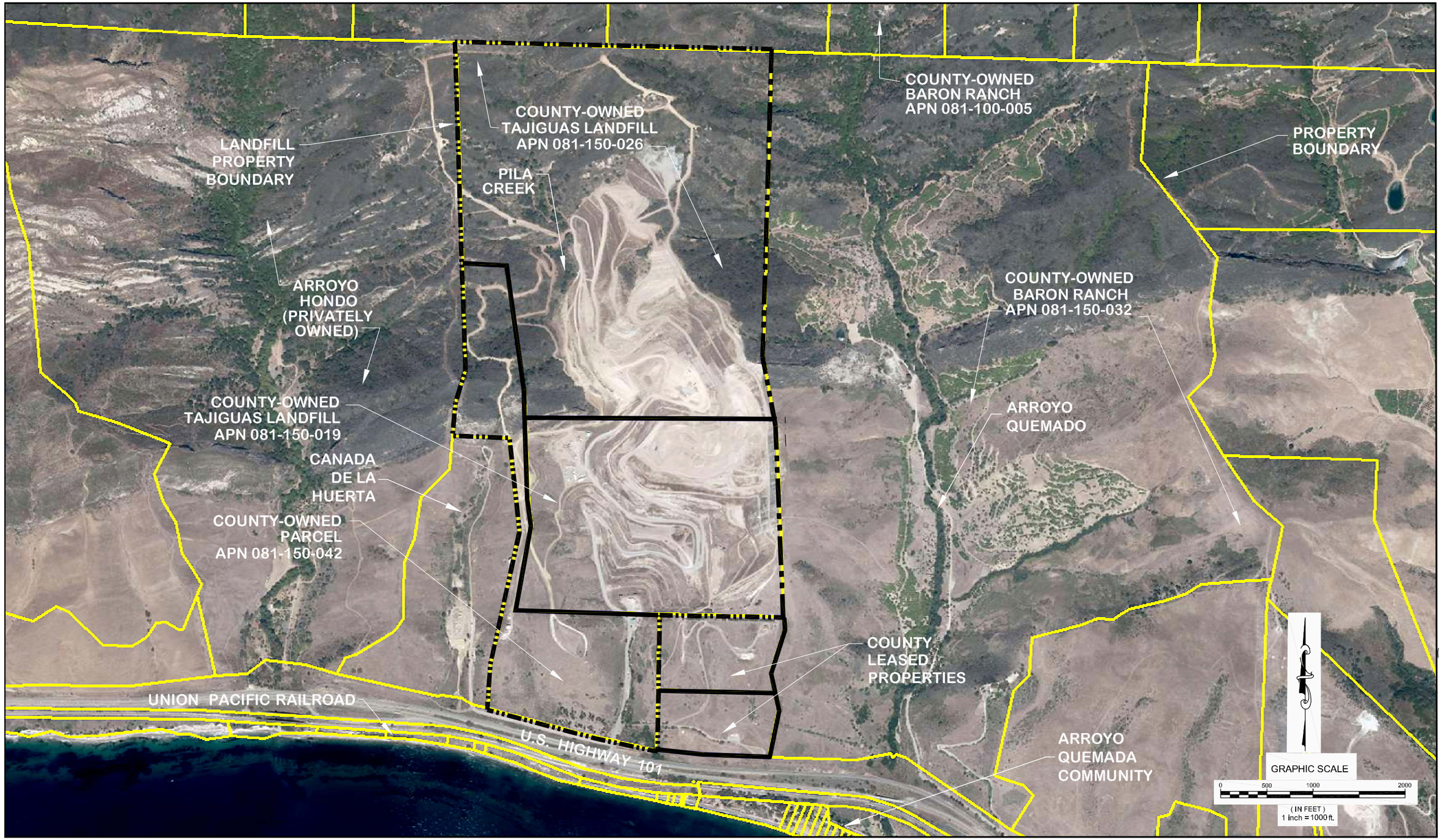
Tajiguas Resource Recovery Project

REGIONAL LOCATION MAP
FIGURE 3-1

March 2014
Project No. 1202-0792



SOURCE: Santa Barbara County Public Works Department Resource Recovery and Waste Management

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Tajiguas Resource Recovery Project

VICINITY MAP
FIGURE 3-2

July 2014
Project No. 1202-0792

N

PERMITTED WASTE DISPOSAL AREA
COASTAL ZONE BOUNDARY
QUEMADA COMMUNITY
LANDFILL PROPERTY BOUNDARY
EXISTING WELL 5
PERMITTED RESIDENCE
APN 081-150-019
REMAINING WASTE DISPOSAL CONTOURS
400 DECK
APN 081-150-026
APN 081-150-034 LEASED BY COUNTY
APN 081-150-033 LEASED BY COUNTY
LIMIT OF EXCAVATION
490 DECK
US HWY 101
370 DECK
NORTH BORROW/ STOCKPILE AREA
GREENWASTE PAD
SCALEHOUSE
OPERATIONS DECK
LEASED AREA POWER PLANT
SOUTH SEDIMENTATION BASIN
LIMIT OF PERMITTED WEST BORROW AREA
EXISTING WELL 3
MAINTENANCE SHOP
DRAINAGE FILL NORTH SEDIMENTATION BASIN
PACIFIC OCEAN
PARCEL BOUNDARY
APN 081-150-042

SCALE
500' 0 500'

Legend

- Waste Disposal Area
- 640 Topography at Project Initiation
- 540 Topography at Landfill Closure

SOURCE: Santa Barbara County RRWMD

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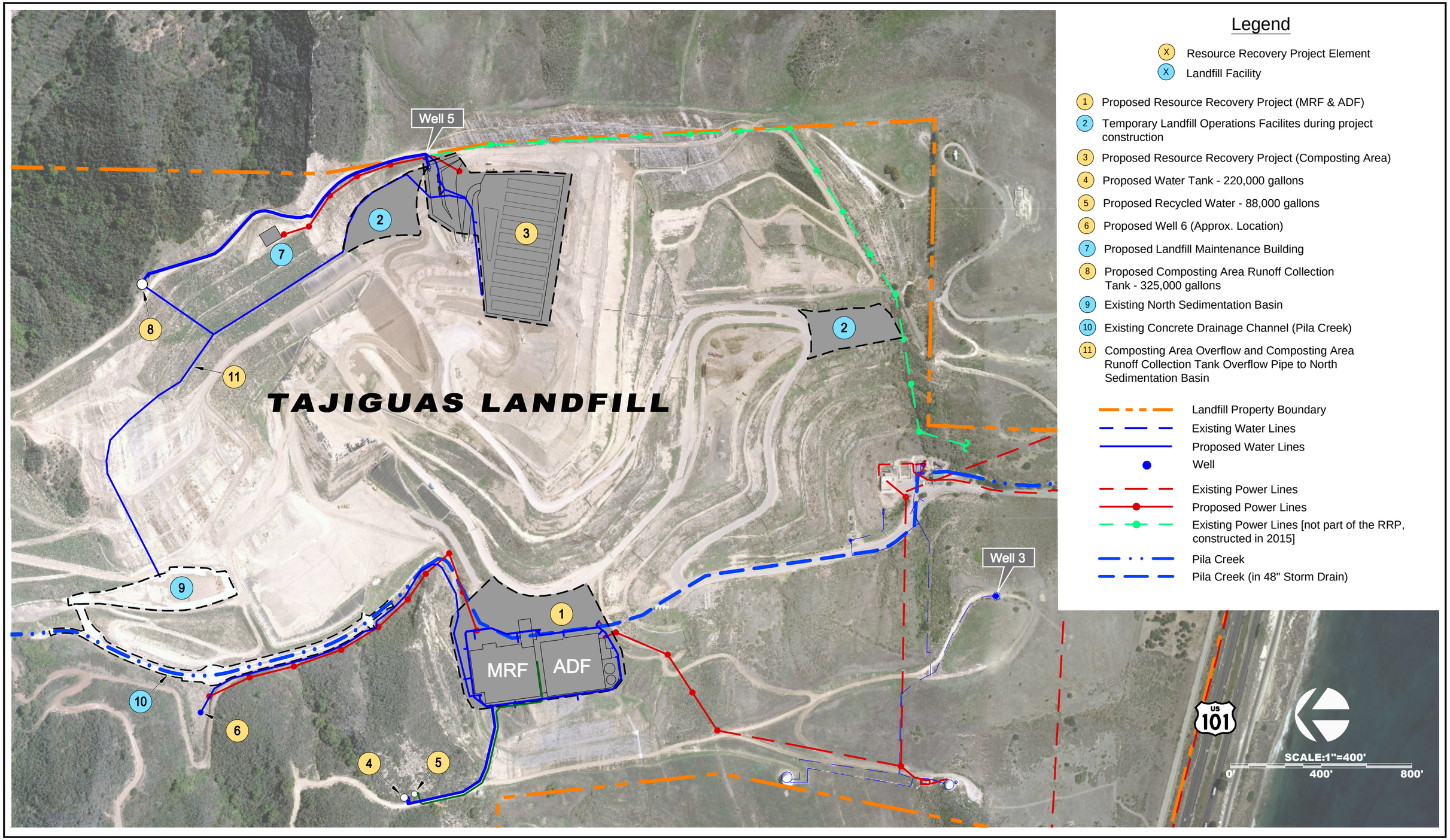
Tajiguas Resource Recovery Project

TAJIGUAS LANDFILL SITE MAP
FIGURE 3-3

October 2015
Project No. 1202-0792



Legend

- X — Resource Recovery Project Element
- X — Landfill Facility

1. Proposed Resource Recovery Project (MRF & ADF)
2. Temporary Landfill Operations Facilites during project construction
3. Proposed Resource Recovery Project (Composting Area)
4. Proposed Water Tank - 220,000 gallons
5. Proposed Recycled Water - 88,000 gallons
6. Proposed Well 6 (Approx. Location)
7. Proposed Landfill Maintenance Building
8. Proposed Composting Area Runoff Collection Tank - 325,000 gallons
9. Existing North Sedimentation Basin
10. Existing Concrete Drainage Channel (Pila Creek)
11. Composting Area Overflow and Composting Area Runoff Collection Tank Overflow Pipe to North Sedimentation Basin

- Landfill Property Boundary
- Existing Water Lines
- Proposed Water Lines
- Well
- Existing Power Lines
- Proposed Power Lines
- Existing Power Lines [not part of the RRP, constructed in 2015]
- Pila Creek
- Pila Creek (in 48" Storm Drain)

SOURCE: Aerial Photograph Dated September 2014

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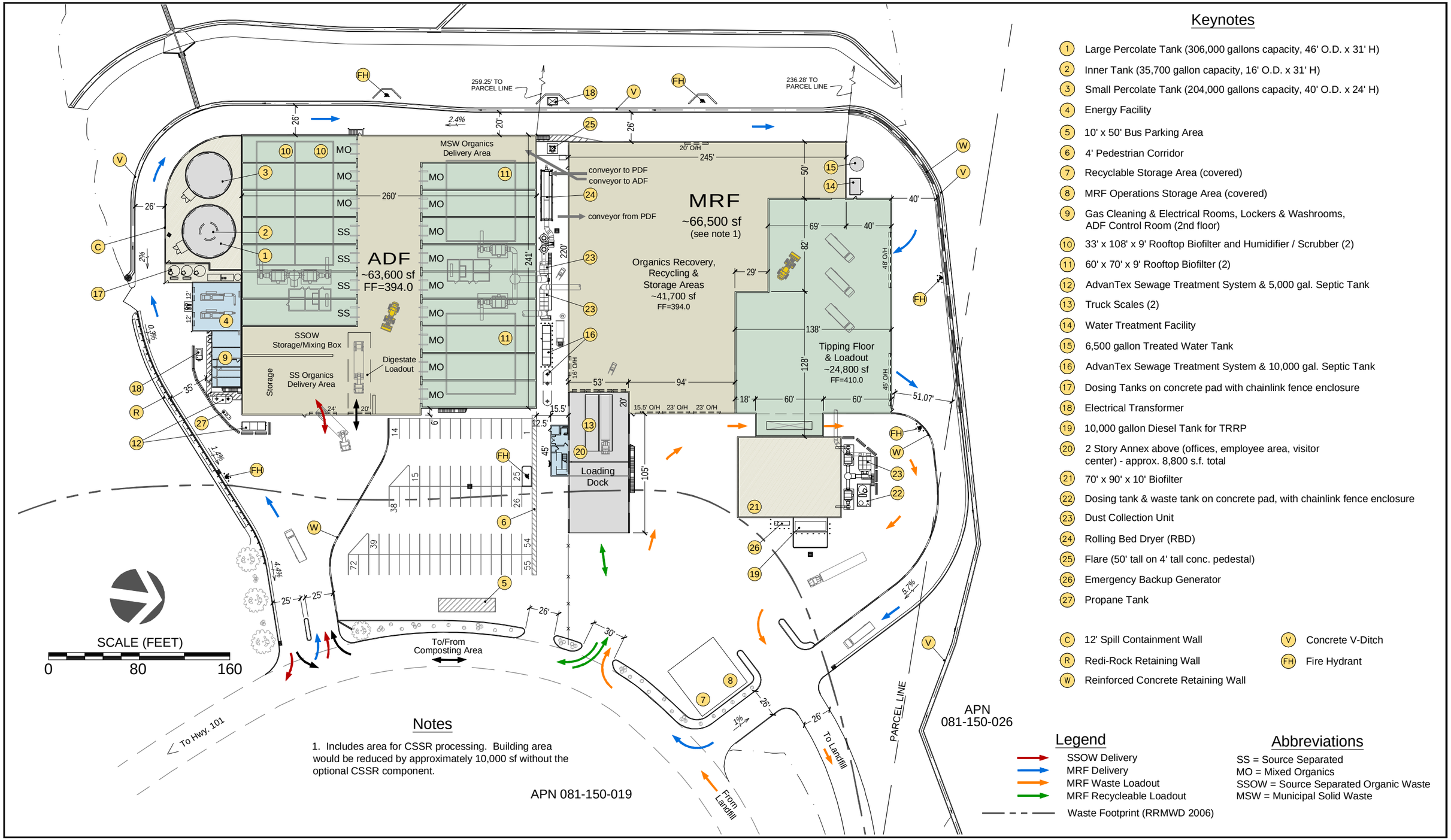
Tajiguas Resource Recovery Project

PROJECT FACILITIES PLAN
UPDATED FIGURE 3-4

November 2015
Project No. 1202-0792



Keynotes

1. Large Percolate Tank (306,000 gallons capacity, 46' O.D. x 31' H)
2. Inner Tank (35,700 gallon capacity, 16' O.D. x 31' H)
3. Small Percolate Tank (204,000 gallons capacity, 40' O.D. x 24' H)
4. Energy Facility
5. 10' x 50' Bus Parking Area
6. 4' Pedestrian Corridor
7. Recyclable Storage Area (covered)
8. MRF Operations Storage Area (covered)
9. Gas Cleaning & Electrical Rooms, Lockers & Washrooms, ADF Control Room (2nd floor)
10. 33' x 108' x 9' Rooftop Biofilter and Humidifier / Scrubber (2)
11. 60' x 70' x 9' Rooftop Biofilter (2)
12. AdvanTex Sewage Treatment System & 5,000 gal. Septic Tank
13. Truck Scales (2)
14. Water Treatment Facility
15. 6,500 gallon Treated Water Tank
16. AdvanTex Sewage Treatment System & 10,000 gal. Septic Tank
17. Dosing Tanks on concrete pad with chainlink fence enclosure
18. Electrical Transformer
19. 10,000 gallon Diesel Tank for TRRP
20. 2 Story Annex above (offices, employee area, visitor center) - approx. 8,800 s.f. total
21. 70' x 90' x 10' Biofilter
22. Dosing tank & waste tank on concrete pad, with chainlink fence enclosure
23. Dust Collection Unit
24. Rolling Bed Dryer (RBD)
25. Flare (50' tall on 4' tall conc. pedestal)
26. Emergency Backup Generator
27. Propane Tank

- C — 12' Spill Containment Wall
- R — Redi-Rock Retaining Wall
- W — Reinforced Concrete Retaining Wall
- V — Concrete V-Ditch
- FH — Fire Hydrant

Notes

1. Includes area for CSSR processing. Building area would be reduced by approximately 10,000 sf without the optional CSSR component.

Legend

- SSOW Delivery
- MRF Delivery
- MRF Waste Loadout
- MRF Recycleable Loadout
- Waste Footprint (RRMWD 2006)

Abbreviations

SS = Source Separated
MO = Mixed Organics
SSOW = Source Separated Organic Waste
MSW = Municipal Solid Waste

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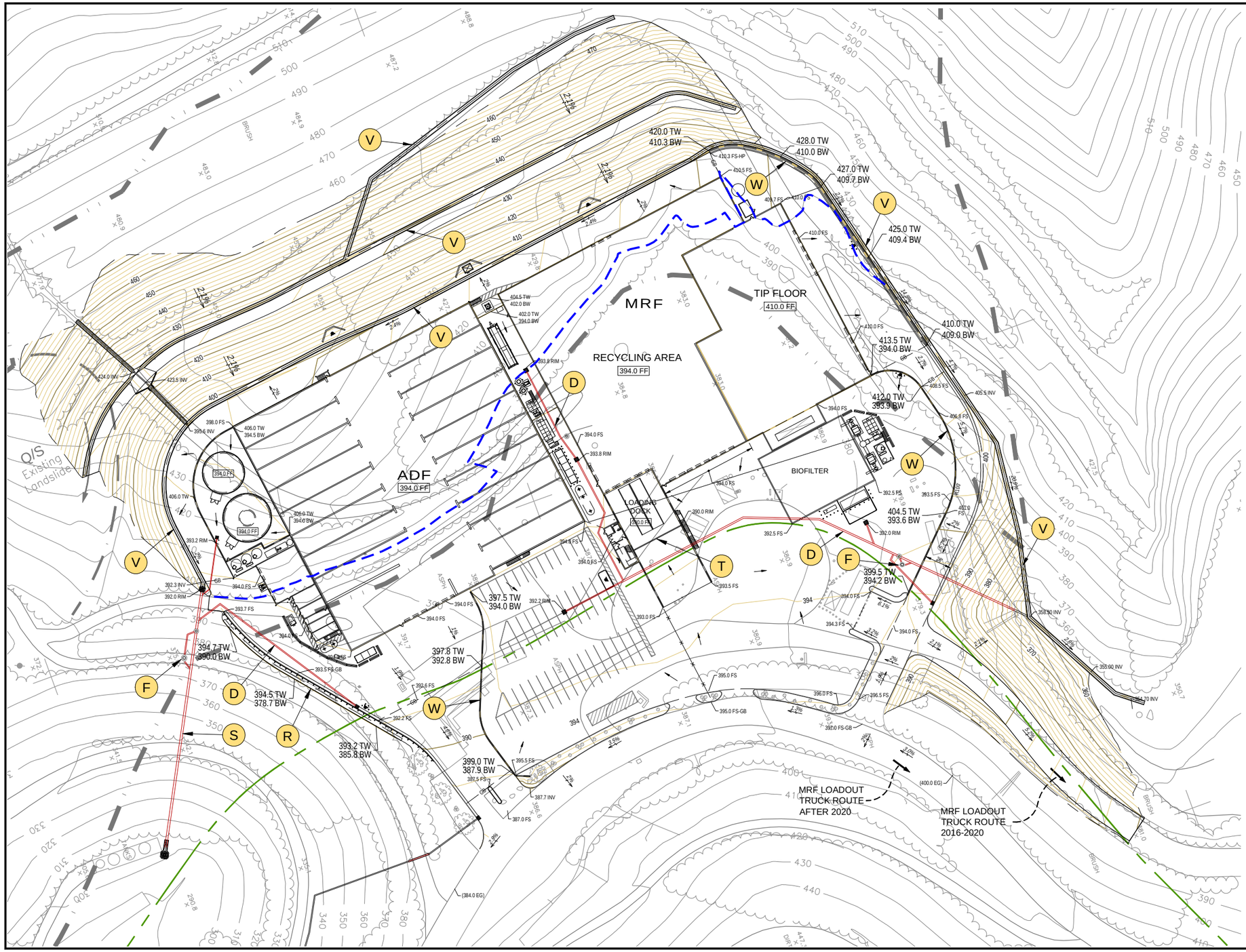
RESOURCE RECOVERY PROJECT SITE PLAN
UPDATED FIGURE 3-5

October 2015
Project No. 1202-0792



Keynotes

- (D) Underground HDPE Storm Drain
- (F) Filtration Unit
- (R) Redi-Rock Retaining Wall
- (S) Surface HDPE Storm Drain
- (V) Concrete V-Ditch
- (W) Reinforced Concrete Retaining Wall
- (T) 8" Trench Drain

Legend

- Limit of Permitted West Borrow Area
- Waste Footprint (RRMWD 2006)
- Cut/Fill Line

SUBGRADE QUANTITIES			
	Unadjusted	15% Fill Compaction	
Cut	142,605	142,605	cu.yds.
Fill	89,360	102,765	
Net	53,245	39,840	Export

SCALE (FEET)
0 100 200

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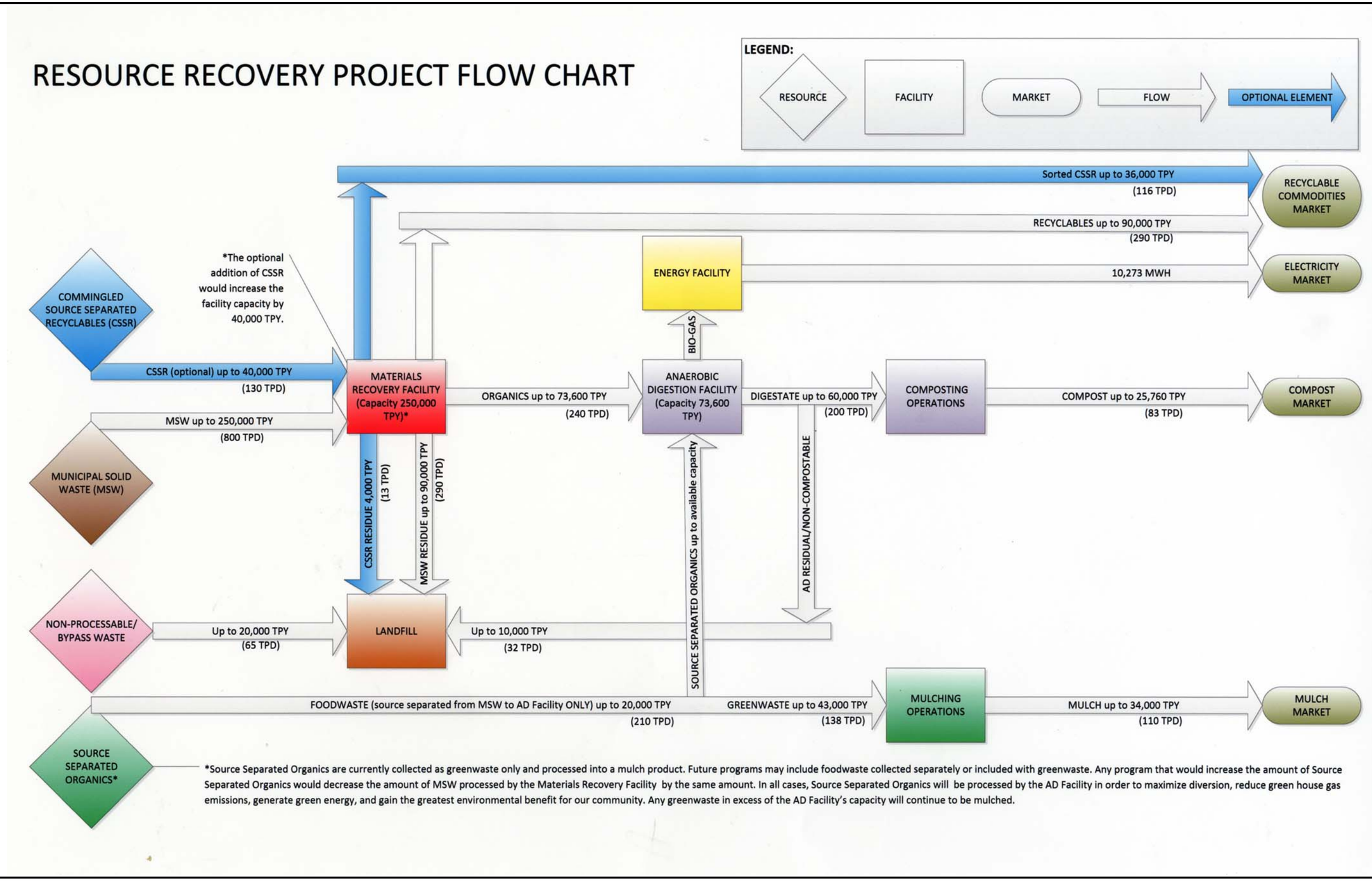
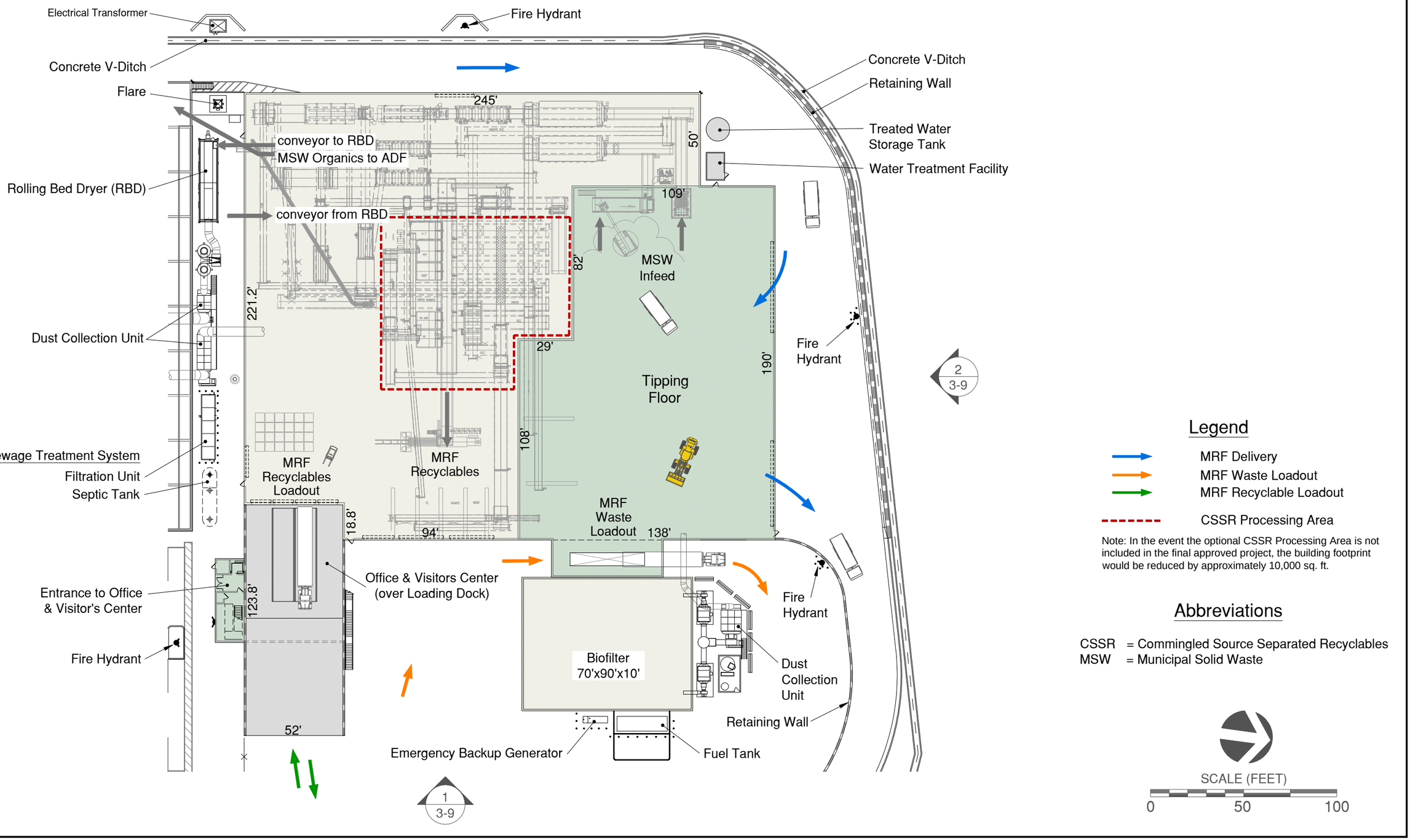
PRELIMINARY GRADING PLAN
UPDATED FIGURE 3-6

RESOURCE RECOVERY PROJECT FLOW CHART



October 2015
Project No. 1202-0792



Legend

- MRF Delivery
- MRF Waste Loadout
- MRF Recyclable Loadout
- CSSR Processing Area

Note: In the event the optional CSSR Processing Area is not included in the final approved project, the building footprint would be reduced by approximately 10,000 sq. ft.

Abbreviations

CSSR = Commingled Source Separated Recyclables
MSW = Municipal Solid Waste

SCALE (FEET)
0 50 100

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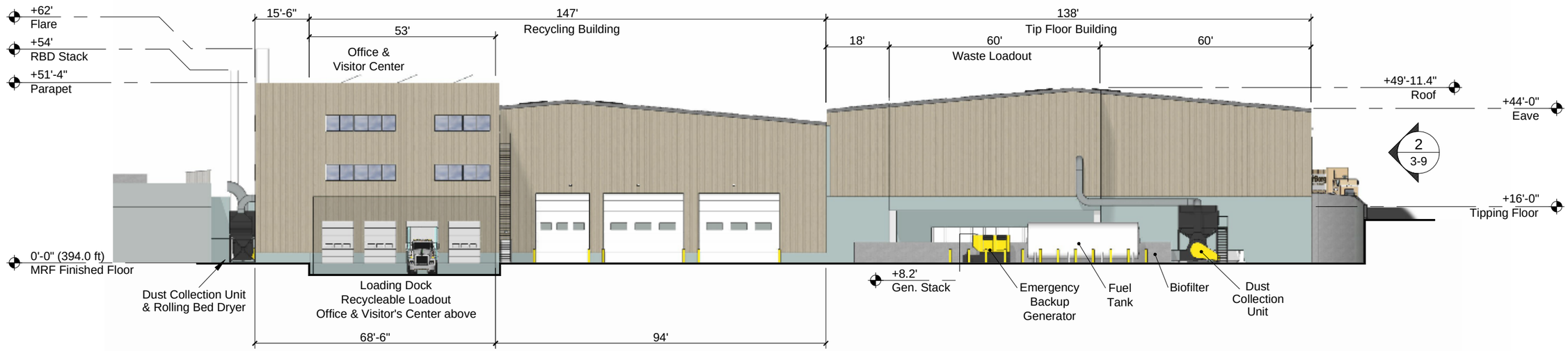
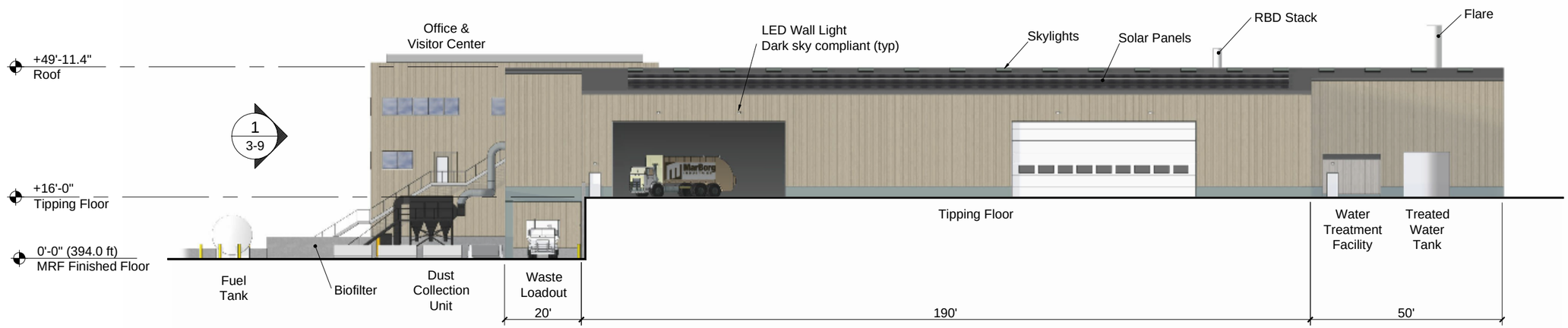
Tajiguas Resource Recovery Project

PRELIMINARY MRF LAYOUT
UPDATED FIGURE 3-8

October 2015
Project No. 1202-0792



1
3.9
East Elevation
Scale: 1" = 30'



2
3.9
North Elevation
Scale: 1" = 30'

Abbreviations

RBD = Rolling Bed Dryer

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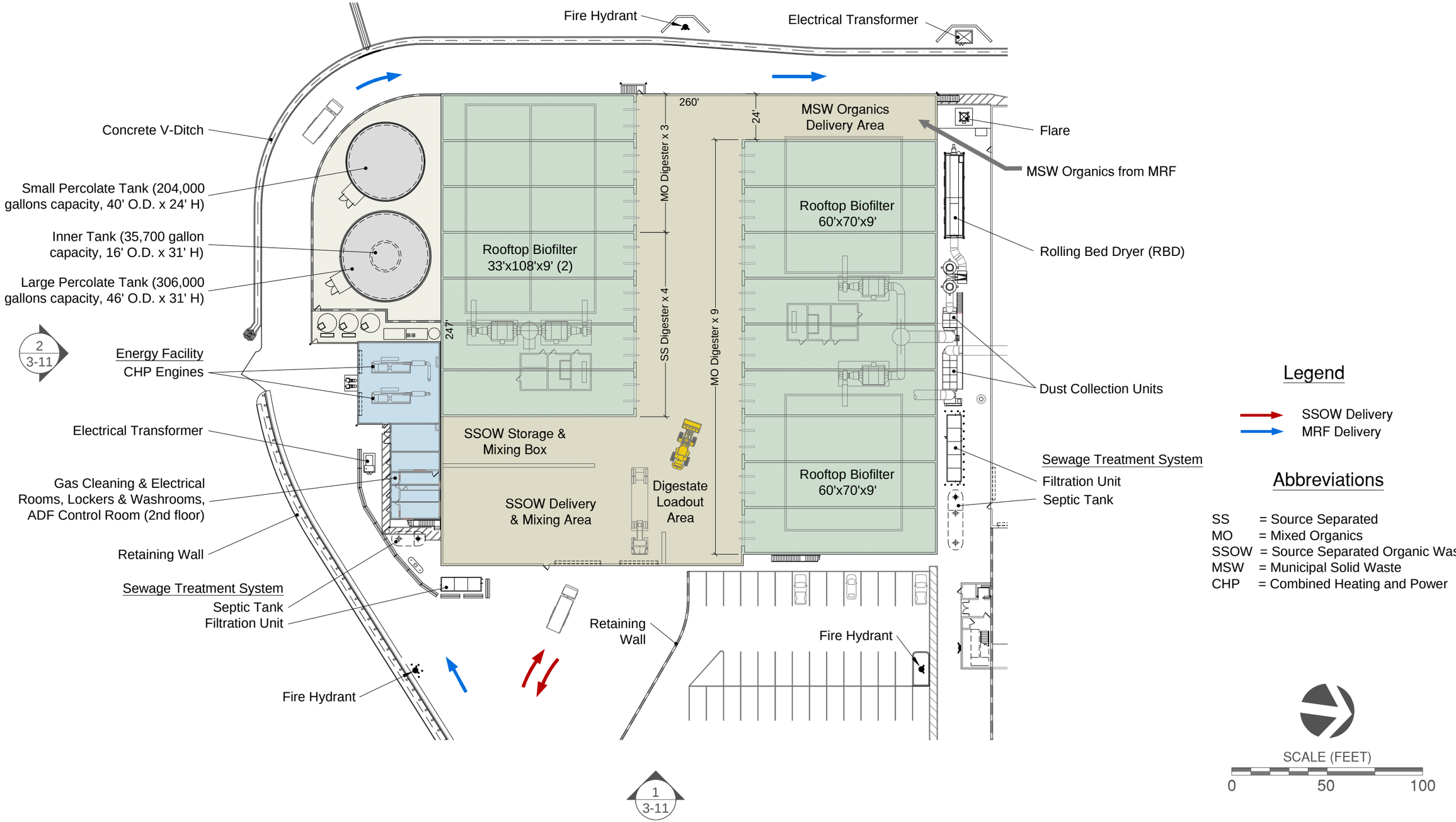
Tajiguas Resource Recovery Project

PRELIMINARY MRF ELEVATIONS
UPDATED FIGURE 3-9

October 2015
Project No. 1202-0792



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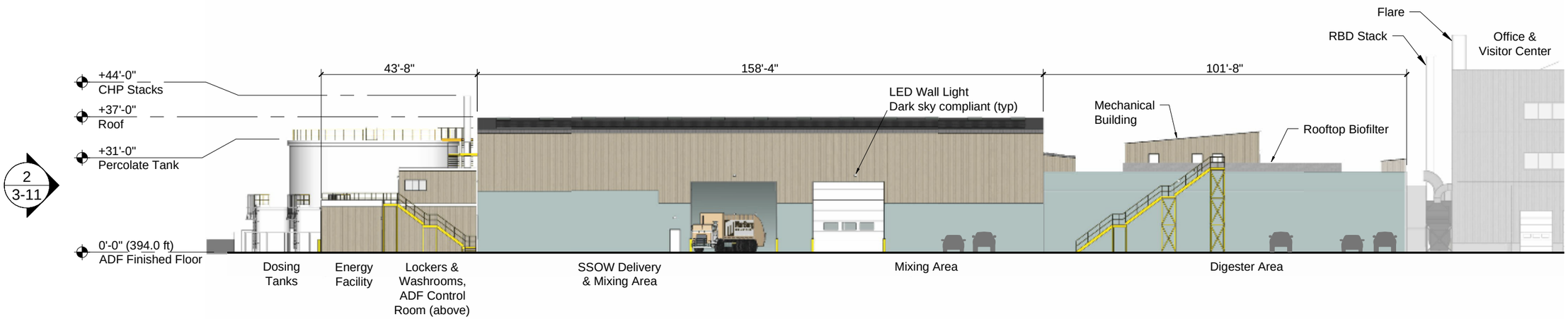
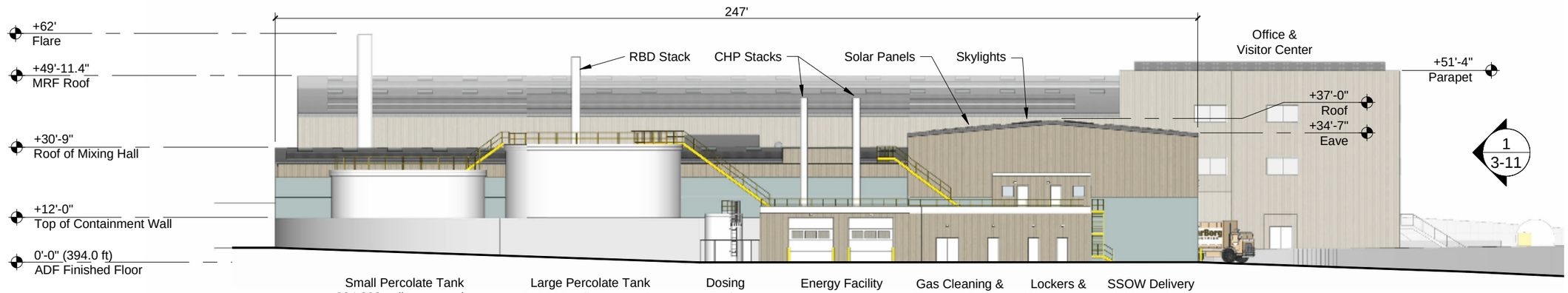
PRELIMINARY AD FACILITY LAYOUT
UPDATED FIGURE 3-10



1 3-11 East Elevation
Scale: 1" = 30'



2 3-11 South Elevation
Scale: 1" = 30'

Abbreviations

CHP = Combined Heat and Power
SSOW = Source Separated Organic Waste
RBD = Rolling Bed Dryer

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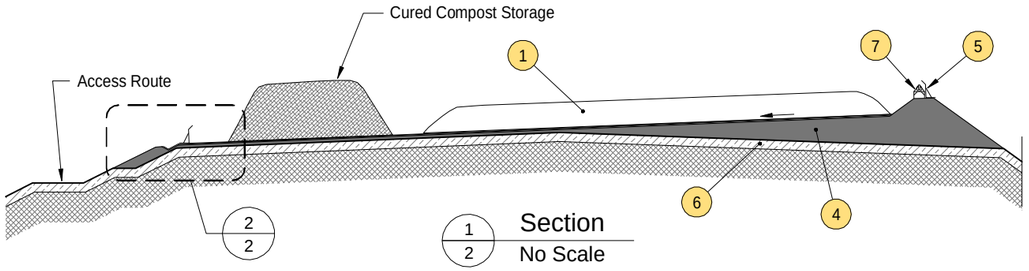
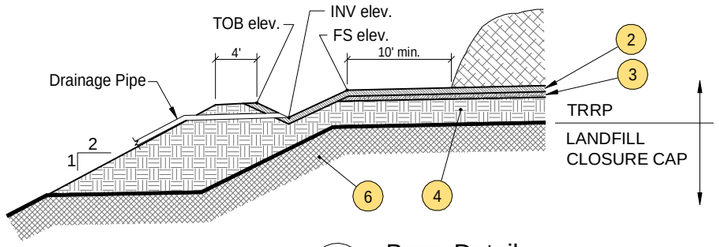
Tajiguas Resource Recovery Project

PRELIMINARY AD FACILITY ELEVATIONS
UPDATED FIGURE 3-11

October 2015
Project No. 1202-0792



1/2 Section
No Scale



2/2 Berm Detail
No Scale

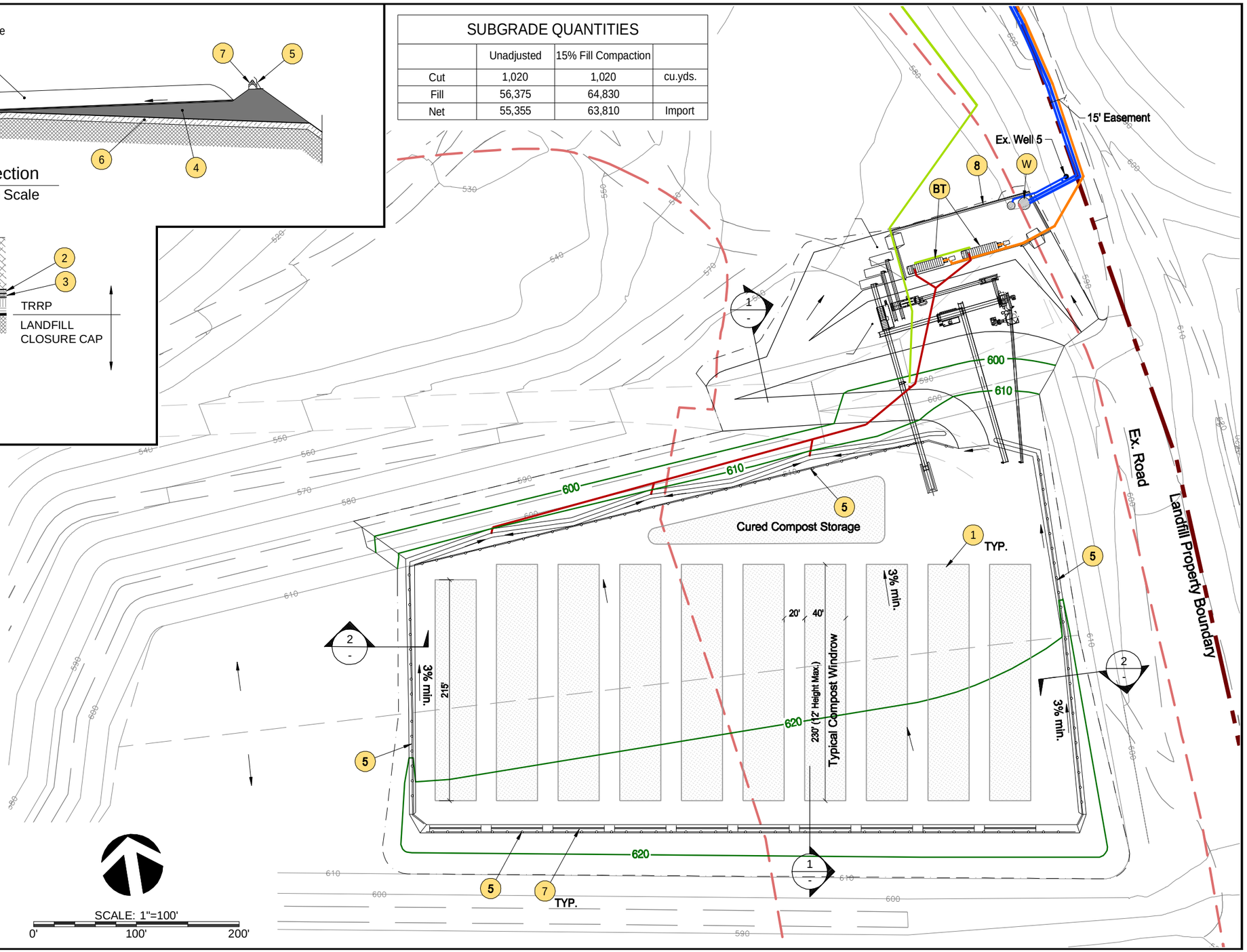
SUBGRADE QUANTITIES			
	Unadjusted	15% Fill Compaction	
Cut	1,020	1,020	cu.yds.
Fill	56,375	64,830	
Net	55,355	63,810	Import

Keynotes

1. Compost windrow
2. 3" AC wearing course
3. MPV 600 paving mat over 3" AC base course
4. 12" min. compacted earth fill
5. Litter fence
6. Existing Prescriptive Final Cover System #5
7. tarpARMOR compost tarp storage unit
8. 1 ft. high containment berm
BT. Baker Tank
W. Compost Watering Storage Tank

Legend

- CMU Runoff Collection
- CMU Runoff to CMU Runoff Collection Tank
- Overflow Collection to North Sedimentation Basin
- Water Supply from Well or Runoff Collection Tank
- Landfill Liner Limits
- 600 Landfill Closure Grading
- 600 CMU Grading



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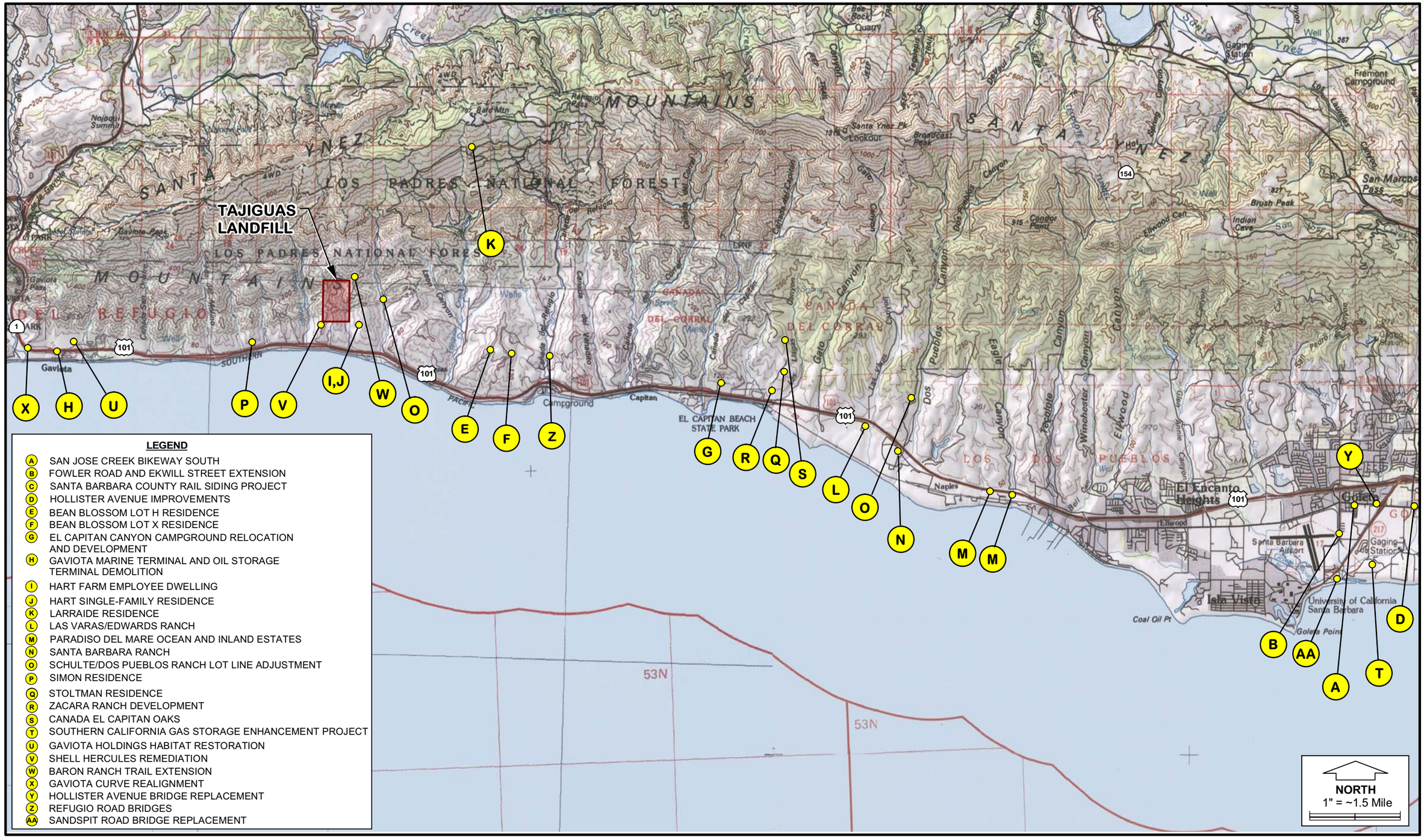
Tajiguas Resource Recovery Project

PRELIMINARY COMPOSTING AREA SITE PLAN
UPDATED FIGURE 3-12

October 2015
Project No. 1202-0792



LEGEND

- (A) SAN JOSE CREEK BIKEWAY SOUTH
- (B) FOWLER ROAD AND EKWILL STREET EXTENSION
- (C) SANTA BARBARA COUNTY RAIL SIDING PROJECT
- (D) HOLLISTER AVENUE IMPROVEMENTS
- (E) BEAN BLOSSOM LOT H RESIDENCE
- (F) BEAN BLOSSOM LOT X RESIDENCE
- (G) EL CAPITAN CANYON CAMPGROUND RELOCATION AND DEVELOPMENT
- (H) GAVIOTA MARINE TERMINAL AND OIL STORAGE TERMINAL DEMOLITION
- (I) HART FARM EMPLOYEE DWELLING
- (J) HART SINGLE-FAMILY RESIDENCE
- (K) LARRAIDE RESIDENCE
- (L) LAS VARAS/EDWARDS RANCH
- (M) PARADISO DEL MARE OCEAN AND INLAND ESTATES
- (N) SANTA BARBARA RANCH
- (O) SCHULTE/DOS PUEBLOS RANCH LOT LINE ADJUSTMENT
- (P) SIMON RESIDENCE
- (Q) STOLTMAN RESIDENCE
- (R) ZACARA RANCH DEVELOPMENT
- (S) CANADA EL CAPITAN OAKS
- (T) SOUTHERN CALIFORNIA GAS STORAGE ENHANCEMENT PROJECT
- (U) GAVIOTA HOLDINGS HABITAT RESTORATION
- (V) SHELL HERCULES REMEDIATION
- (W) BARON RANCH TRAIL EXTENSION
- (X) GAVIOTA CURVE REALIGNMENT
- (Y) HOLLISTER AVENUE BRIDGE REPLACEMENT
- (Z) REFUGIO ROAD BRIDGES
- (AA) SANDSPIT ROAD BRIDGE REPLACEMENT

NORTH
1" = ~1.5 Mile

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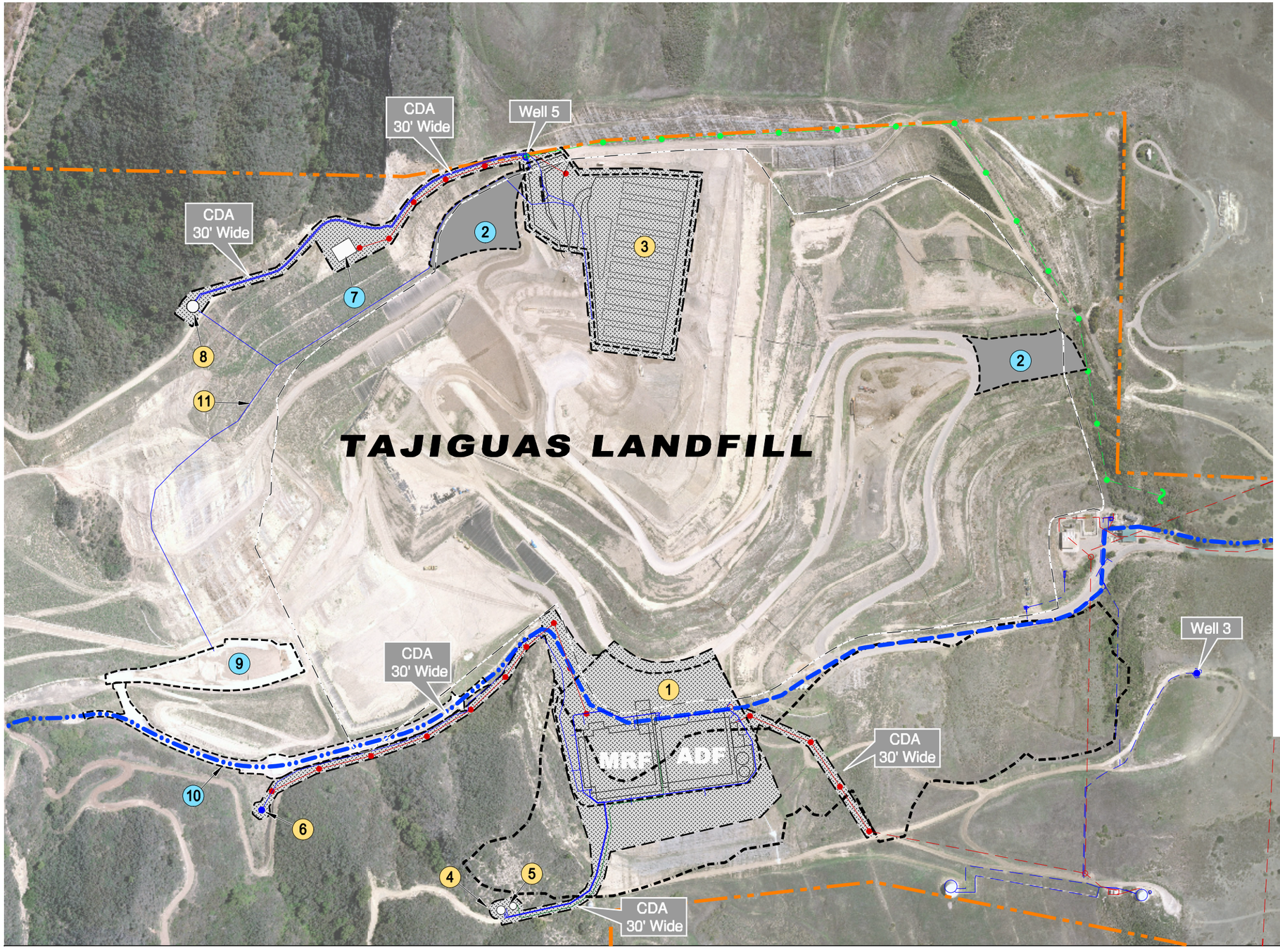
Tajiguas Resource Recovery Project

CUMULATIVE PROJECT LOCATION MAP
UPDATED FIGURE 3-13

October 2015
Project No. 1202-0792



Legend

- (X) Resource Recovery Project Element
- (X) Landfill Facility

1. Proposed Resource Recovery Project (MRF & ADF)
2. Temporary Landfill Operations Facilites during project construction
3. Proposed Resource Recovery Project (Composting Area)
4. Proposed Water Tank - 220,000 gallons
5. Proposed Recycled Water - 70,000 gallons
6. Proposed Well 6 (Approx. Location)
7. Proposed Landfill Maintenance Building
8. Proposed Composting Area Runoff Collection Tank - 325,000 gallons
9. Existing North Sedimentation Basin
10. Existing Concrete Drainage Channel (Pila Creek)
11. Composting Area Overflow and Composting Area Runoff Collection Tank Overflow Pipe to North Sedimentation Basin

- Landfill Property Boundary
- Existing Water Lines
- Proposed Water Lines
- Pila Creek
- Pila Creek (in 48" Storm Drain)
- Permitted Waste Disposal Area
- Existing Power Lines
- Proposed Power Lines
- Existing Power Lines [not part of the RRP, constructed in 2015]
- Limit of Permitted West Borrow Area
- Construction Disturbance Area (CDA)

SOURCE: Aerial Photograph Dated September 2014

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Tajiguas Resource Recovery Project

CONSTRUCTION DISTURBANCE AND STAGING AREAS
UPDATED FIGURE 3-14