CHAPTER 13

ALTERNATIVES

Section 15126(d) of the Guidelines for Implementing the California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion and analysis of alternatives. Specifically, the EIR should (1) describe a range of reasonable alternatives to the Project, which would feasibly attain most of West County Landfill, Inc.'s (Applicant's) basic objectives of the proposed Project, but would avoid or substantially lessen any of the significant effects of the proposed Project, (2) describe the no-Project alternative, and (3) evaluate the comparative merits of the alternatives.

The range of alternatives is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (Section 15126.6(f)). Evaluation of a no project alternative is required, as well as an environmentally superior alternative if the no project alternative is the environmentally superior alternative. The significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the proposed project (Section 15126.6(d)).

This chapter addresses alternatives to the proposed Bulk Materials Processing Center (BMPC) use permit amendment changes and related actions (Project). Alternatives include the no-Project alternative, an alternative location for the Waste Recycling Center (WRC) on the West Contra Costa Sanitary Landfill (WCCSL) site, an alternative composting process (aerated static pile), and the preferred environmental alternative. These alternatives represent the full range of alternatives that were considered by the Lead Agency (Contra Costa County Community Development Department). The WCCSL is owned by the Applicant.

Part of the alternatives discussion must address the ability of the alternative to attain the Applicant's basic objectives of the proposed Project. The Applicant's objectives of the proposed Project (Chapter 3, Section C1) are as follows:

- To further reduce reliance on landfill disposal by expanding on-site recycling operations and help comply with State-required AB 939 waste diversion mandates.

- To operate a WRC and transfer station to handle self-haul volumes currently landfilled in the WCCSL, as well as capacity for new business (to be developed on an ongoing basis), and to achieve even greater diversion of materials from the waste stream than is accomplished now in the Waste Shuttle Facility.

- To help facilitate development of the Trail around the WCCSL, which will provide recreational opportunities and increase access to the Bay and which will also offer a setting for wildlife viewing and environmental education.

- To correct the areas of the Class II landfill's central plateau that have experienced excessive settlement, and to restore the landfill by placing additional MSW subbase, which will allow the foundation layer, barrier layer, and top landfill cover surface to be placed at the correct elevations and slope so that drainage can be properly managed.

A. FACTORS IN SELECTION OF ALTERNATIVES

The CEQA Guidelines also require an EIR to briefly describe the rationale for selecting the alternatives to be discussed (Section 15126.6(a)). The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the Project.
- The extent to which the alternative would avoid or lessen any of the identified significant adverse environmental effects of the Project.
- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, consistency with regulatory limitations, and the reasonability of the Applicant controlling the site.
- The appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice.
- The requirement of CEQA Guidelines to consider a no-project alternative, as well as an environmentally superior alternative if the no-project alternative is the environmentally superior alternative (Section 15126.6).

Further discussion of the rationale in selecting the alternatives is included in the subsections that follow.

B. NO-PROJECT ALTERNATIVE

This section discusses the mandatory "no-Project" alternative. Unlike some instances where no-project means no activities will occur on a given site, current operations at the WCCSL are permitted facilities. Under the no-Project alternative, currently permitted operations would continue subject to existing permit conditions.

1. Description

Under the no-Project alternative, the WRC, soil reclamation, biosolids/dredged material spreading, including the wet/dusty materials blending, and the proposed alignment for the Trail would not be implemented. Relative to the Trail, the alignment specified in the North Richmond Shoreline Specific Plan and evaluated in the EIR for that plan could be implemented, but consideration should be given to the findings and conclusions in this EIR. The following operations, however, could continue under existing permits without increasing the amounts or types of materials processed, changing operating hours, relocating operations/ structures, or increasing the height of the landfill:

- BMPC
  - Waste Shuttle Facility. This facility would continue to receive waste and recyclable materials at its location on the Class II landfill's central plateau while the Class II landfill disposal operations are active.
  - Composting Facility. Composting would be limited to 10,000 tons per year with existing feedstock materials.
  - Concrete/Asphalt Processing Facility. Processing of about 125,000 tons per year of concrete and asphalt would continue at the existing location. Permitted to have a maximum of 30,000 tons of concrete debris and 1,600 tons of asphalt on site at one time.
  - Wood Recovery Facility. This facility would continue to process about 30,000 tons per year of wood wastes. Permitted to have a maximum of 350 tons on site at one time.
  - While the former Soil Remediation Facility is inactive, it is permitted and, therefore, the Applicant could reinstate its permitted uses, if desired, under the no-Project alternative.
- Class II Landfill
  - The Class II landfill would continue to operate under Regional Water Quality Control Board (RWQCB) Order No. R2-2002-0066 and Solid Waste Facility Permit (SWFP) #07-AA-001. SWFP #07-AA-001 limits the fill height of the landfill to 130 feet above mean sea level (msl). According to the Applicant's most recent site life projections based on a landfill height of 130 msl (Table 3-5 in Chapter 3), the landfill would be filled by October 2003 if the former Soil Remediation Building remains in place, or February 2005 if the building is removed, allowing additional solid waste disposal in this area. The RWQCB has ordered that disposal cease at the WCCSL Class II landfill by January 31, 2006. At landfill closure, wastes would be directed to the permitted Integrated Resource

Recovery Facility Central Processing Facility (Central IRRF) located at 101 Pittsburg Avenue about 1 mile from the WCCSL. This waste would then be transferred for disposal to the Potrero Hills Landfill in Solano County (also owned by Republic Services, Inc.) for a period of 5 years after closure of the WCCSL as determined by the West Contra Costa Integrated Waste Management Authority (Authority).

- Central IRRF

  - The Central IRRF would be expanded to its full design capacity. The Central IRRF comprises the land and improvements of the primary transfer station and waste processing site. It is located at 101 Pittsburg Avenue, between Third Street and Central Street, and between Brookside Drive and Wildcat Creek in the unincorporated area of North Richmond. The Central IRRF is open for business 7 days a week, except for Christmas, Thanksgiving, and New Years Day holidays. Operations may begin as early as 6:00 a.m. and continue until 2:00 a.m. for some specialized operating functions. The Central IRRF may receive a maximum of 1,200 tons per day (TPD) of materials/waste from all combined sources. The Central IRRF is operated by West County Resource Recovery, Inc., pursuant to an agreement with the Authority. Operations are regulated by Contra Costa County (County) Use Permit 2053-92, and Solid Waste Facilities Permit No. 07-AA-0034.

    The Central IRRF was designed and constructed to a building capacity and loadout capacity to receive, upload, handle, store, and load onto transfer vehicles a maximum of 170,300 tons per year (peak day maximum of 683 tons) for disposal primarily at the Potrero Hills Landfill in Solano County. Eligible wastes include:

    - Franchised waste consisting of residential, commercial, or industrial solid waste or construction and demolition debris delivered in collection vehicles subject to a franchise or contract between the Authority and a member agency.

    - County area waste consisting of residential, commercial or industrial solid waste or construction and demolition debris delivered in collection vehicles subject to a contract between the Authority and County.

    - Affiliate waste consisting of acceptable waste from operating company affiliate operations.

- Processing residues resulting from the processing of separated materials and acceptable waste containing recoverable materials or separated materials which cannot be processed.

- Under the terms of a service agreement between the Authority and WCCSL in 1996, and as amended in 1998, self-haul of waste by private vehicles is precluded at the Central IRRF. Self-hauled waste is accepted and processed at the WCCSL and transferred for disposal primarily at the Potrero Hills Landfill in Solano County.

2. Environmental Considerations

The no-Project alternative would not meet the Applicant's Project objectives presented earlier in this chapter that relate to restoring areas of the landfill central plateau, expanding recycling operations while further reducing reliance on landfill disposal, establishing a facility for self-haul and new business, and facilitating improved alignment of the Trail. In view of the substantial settlement that has occurred on the landfill plateau, limiting the Class II landfill to a maximum fill height of 130 feet msl would not provide a needed "buffer" to maintain acceptable slopes after anticipated future settlement. More effective drainage management would not be provided. Under the no-Project alternative, the significant unavoidable adverse impact associated with particulate matter less than 10 microns in diameter (PM_{10}) emissions discussed in Chapter 10 would not occur. Emission levels associated with existing permitted WCCSL and BMPC operations would continue.

With the no-Project alternative, a large increase in resource recovery processing capacity would not occur (also considered "unrealized") at the WCCSL. Table 13-1 summarizes the unrealized resource recovery processing capacity under the no-Project alternative. The table shows the proposed increase in permit limits for the BMPC, their corresponding estimated diversion efficiencies, and the unrealized resource recovery processing capacity in tons per year. Approximately 957,150 tons per year of waste materials are proposed to be processed through the Project. This material would have to be processed at other existing or proposed facilities. A portion of the materials would be processed at the Central IRRF, which is permitted for 438,000 tons per year (TPY) (1,200 TPD) and currently receives about 55,000 TPY. The municipal solid waste proposed for the WRC (365,000 TPY) would be handled at the Central IRRF within this permitted capacity under the no-Project alternative. Currently, the Authority's Self-Haul Agreement with Richmond Sanitary Services prohibits acceptance of self-haul waste at the Central IRRF. The remaining waste material of about 519,150 TPY would need to be processed/disposed of at other facilities, resulting in a possible loss of new diversion for some jurisdictions.

Table 13-1. Unrealized Resource Recovery Processing Under the No-Project Alternative

Proposed BMPC activity	Proposed increase in permit limits, tons/year	Waste diversion efficiencies, percent[a]	Unrealized resource recovery processing capacity, tons/year
WRC	365,000	25	91,250
Concrete/asphalt	403,000	100	403,000
Composting	154,300	90	138,870
Wood waste	101,400	90	91,260
Soil reclamation and biosolids/ dredged materials	195,000	95	185,250
Wet/dusty materials	51,100	93	47,520
Total	1,265,000	--	957,150

a. Estimates provided by Applicant.

Source: Brown and Caldwell, April 2003.

The Trail has been in the planning stage for many years, with support of local agencies and organizations. The Trail is specified in the North Richmond Shoreline Specific Plan and required by the County and City of Richmond (City) use permits. Under the no-Project alternative, the proposed realignment of a portion of the Trail designated as Phase 1 would not be implemented and a means of enhancing recreational and educational opportunities by improving the location of Phase 1 of the Trail would not occur.

3. Comparison to Proposed Project

The features of the no-Project alternative do not provide for expanded recycling at the WCCSL and would not result in improved views and experience for Trail users afforded by the proposed realignment of the Phase 1 portion of the Trail. Under the no-Project alternative, maintaining the required slopes at the Class II landfill through post-closure would be difficult due to settlement and a lack of a drainage management plan that would comply with RWQCB Order No. R2-2002-0066. A fill height of 160 feet msl is already permitted in RWQCB Order No. R2-2002-0066, but not in SWFP No. 07-AA-001. The WCCSL is a permitted integrated solid waste management facility in a suitable location where expanded resource recovery activities can be implemented in an efficient manner. Under the no-Project alternative, and without considering the benefit that would be available from the nearby Central IRRF, quantities of waste materials may need to be processed, used as alternative daily cover (ADC), or disposed of at other existing or new facilities, which could be less efficient and is more uncertain regarding timing and environmental compatibility.

C. ALTERNATIVE WRC LOCATION ON THE WCCSL SITE

The proposed Project includes a WRC with two waste/materials acceptance areas at separate locations: the Organic Materials Processing Area located adjacent to the Composting Facility on top of the landfill central plateau, and the Mixed Waste Processing Area proposed to be located within the former Soil Remediation Building (Figure 3-3). An alternative location for the Mixed Waste Processing Area is evaluated in this section because it is a location for building where site planning and design are not constrained by an existing structure or other physical site constraints, and because issues associated with settlement, landfill gas (LFG) migration, or proximity to the HWMF soil-attapulgite slurry wall are either avoided or minimized. For the alternative WRC, location of the proposed activities at the Organic Materials Processing Area would remain unchanged. In the following discussion, reference to the WRC applies only to the Mixed Waste Processing Area.

1. Description

A description of the issues related to the alternative WRC location is included below. Discussion is included on its location, concept, access, design, and operational considerations.

a. Location. The location of the alternative WRC site within the WCCSL is also shown on Figure 3-3 and is within WCCSL Area A (Area A location). A view of the building site is shown on Figure 13-1. The site is within the Richmond city limits. The Area A location is outside of the Class II landfill disposal area and has historically been used for stockpiling of soil for use in WCCSL operations and location of the existing composting sedimentation basin. All stockpiled soil has been removed from this location.

b. Concept. Whether the WRC is implemented at the proposed location or within the Area A location, the facility would serve the same purpose. At each location, the WRC would have a design capacity of 1,000 TPD, 7-day average (TPD7). Under the Applicant's proposal, this design capacity would be sufficient to accommodate the existing 650 TPD7 self-haul and non-franchised wastes now received at the WCCSL (estimated by the Applicant), plus new business (350 TPD7). It is assumed that the Central IRRF, located at 101 Pittsburg Avenue about 1 mile from the WCCSL, would receive the West County franchised wastes (subject to decision of the Authority), which would be hauled by the packer collection service trucks and the roll-off box trucks (estimated to be 350 TPD7) in addition to the approximate 150 TPD7 currently received. Thus, a total of about 1,500 TPD7 would be handled collectively by the WRC and Central IRRF.

Figure 13-1 View of Alternative WRC Location in Area A Looking Southwest

There is also a scenario where the Central IRRF would continue to be used as a materials recovery facility and franchised wastes would be diverted to the WRC. The design capacity of the WRC would remain at 1,000 TPD7 and the franchised waste would reduce the capacity available for new business waste. If the Applicant were to develop new business in excess of the 1,000 TPD7 and desired to handle this waste at the WRC, then additional environmental review and permitting would be necessary.

The decision on the scenarios discussed above will be based on a variety of factors and will be made by the Authority, which is composed of five voting member jurisdictions (cities of El Cerrito, Hercules, Pinole, Richmond, and San Pablo). The purpose of this EIR is to provide CEQA evaluations on both WRC sites to assess their relative environmental compatibility, thus disclosing potential impacts associated with either location to agencies and interested parties.

c. Access. The Area A location would be reached via the WCCSL main access road across the San Pablo Creek bridge (Recycling Lane). This road passes through the entrance gate and scale house, swings west and crosses the south flank of the Class II landfill (eastern leg), and then passes along the north side of the former Soil Remediation Building. An intersection is proposed by the Applicant where the road swings to the south as it climbs to the landfill central plateau. From this location, a new road would be constructed along the closed eastern sideslopes of the Class II landfill to the Area A location.

d. Design. Figure 13-2 is the site plan for the WRC at the Area A location. An operations summary detailing design and operational considerations is included in Appendix 13A.

A new building would be constructed to accommodate the Mixed Waste Recycling Area. While detailed design of the building would need to be completed, the Applicant anticipates a building size of approximately 37,500 square feet (250 feet in length and 150 feet in depth). The design of the building would include all the necessary components of a waste recycling facility and transfer facility. The processing building would likely be a metal-clad, steel frame structure on a spread footing foundation and concrete floor. Initially, the building is being conceived as walled on three sides with the doorways left open to the north (Figure 13-2) away from Trail users. Ultimately, roll-up doors could be added.

The WRC at the Site A location would include an office, restrooms, and a break room. The Applicant is considering several options for locating these facilities. One option would be a building on the west side of the processing building that would house the office and restrooms. This structure would be a separate building connected with a covered walkway and could be stick-built or a modular structure. The break room may be in this building, or it may be in the first floor area on the south side of the sorting area building for convenience of employees.

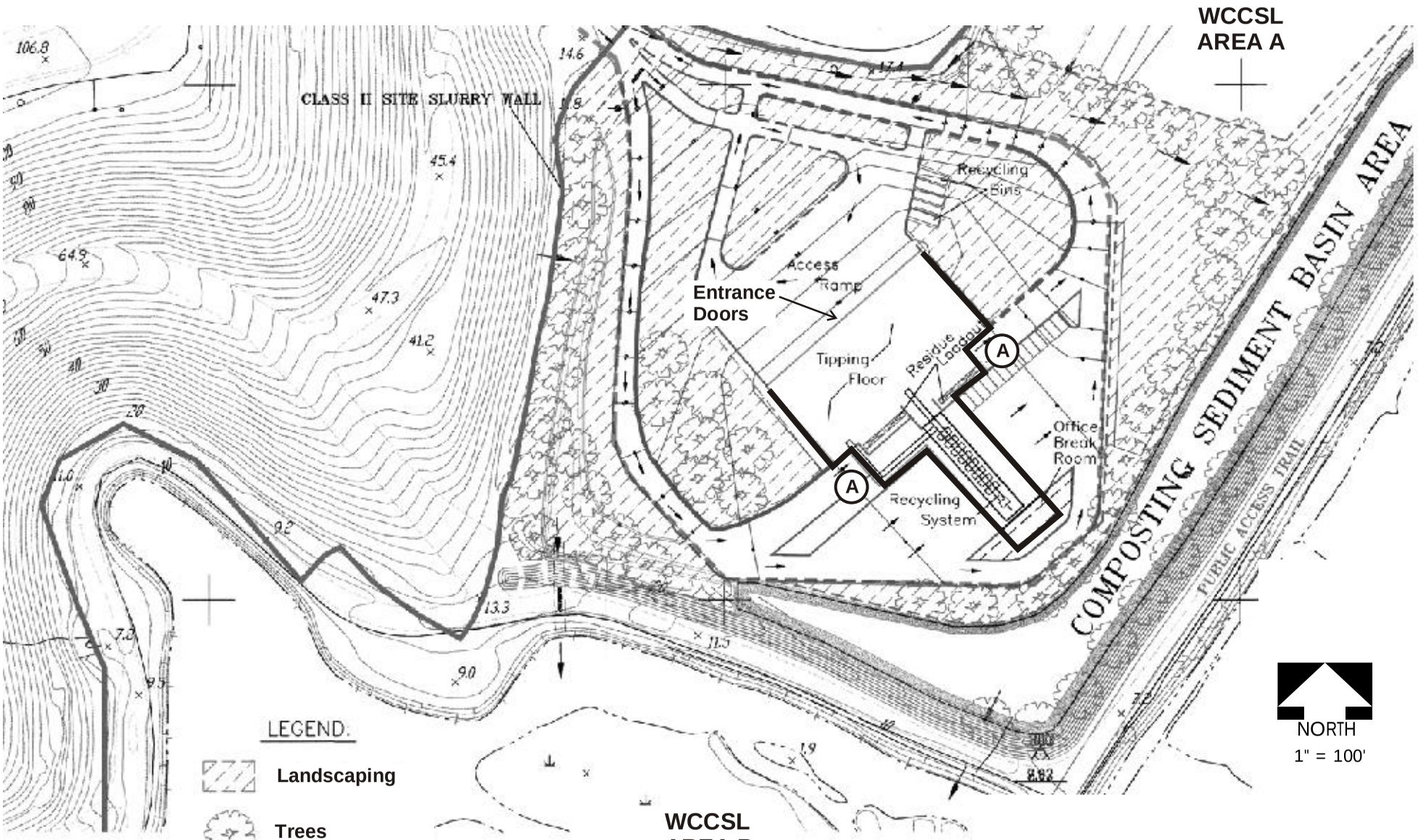


Figure 13-2 Site Plan for WRC at Area A Location

Source: WCL, Inc., January 2003

The Mixed Waste Processing Area would consist of several main components, including a receiving area, a sorting floor where wastes would be sorted into trash and recyclables, an elevated picking line where the recyclables would be sorted, and a transfer vehicle loadout area. There would be separate subareas for receipt of recyclables, trash, and mixed loads of recyclables and trash, and there would be several subareas for processing and removal of recyclables. The loadout area would be housed inside a building attached to the south side of the processing building. The transfer trailers would be positioned inside of this side structure. The ceiling would be high enough to allow a tamping crane to reposition wastes inside the trailers if necessary.

The WRC would be sited in the southwestern corner of Area A, requiring the relocation of the existing composting sedimentation basin. As shown on Figure 13-2, the relocated basin would border the southern and eastern portion of the WRC. The proposed Phase I segment of the Trail also borders the WRC in this area. An elevated landscaped berm with 6-foot cyclone fencing would be constructed in this area for security and environmental compatibility purposes.

The height of the berm above the Trail is proposed at 8 feet. The levee elevation is about 12 feet above mean sea level (MSL), hence the top of the berm would be at 20 feet MSL, and the maximum elevation of the top of the fence would be about 26 feet MSL. The fence actually may be located several feet down the slope on the trail side, so it may top out at about 24 feet. The chain link fence would include slats, or vegetation would be grown on it to screen the area behind the fence and soften its appearance.

e. Traffic Flow. Figure 13-2 illustrates traffic flow at the WRC. At the building, the residential and commercial waste collection vehicles would back to the western end. The self-haul traffic would follow the same route as the collection vehicles, but enter the building at the east end. The transfer trucks would pass southward along the west side of the building, turn at the southwest corner, and enter the loading stall in the eastern direction. Removal of the recyclable materials would follow the same path as the transfer trucks.

f. Operations. Operations at the alternative WRC location would be the same as at the proposed location. Recyclables would be removed through floor sorting, while selected materials would be processed by sorting the materials passing down a conveyor belt picking line or sorting station. All recyclable materials would be placed in roll-off boxes or designated areas. A roll-off truck would deliver the boxes of recovered materials to the appropriate on-site or off-site facilities.

2. Environmental Considerations

Environmental considerations associated with developing and operating the WRC at the Area A location are discussed below. Use of the Area A location and associated development plan would meet the Applicant's Project objectives.

a. Drainage. The surface drainage plan for the Area A location is shown on Figure 13-3. The apron would be sloped from the processing building and direct drainage to WCCSL's runoff retention pond in Area B. That portion of the drainage that may contact wastes or the recycled material storage areas would be intercepted and routed to oil/water separators. Roof drainage from the building would be directed to downspouts with discharge directed to the storm drain system and Area B. Use of the Area A location for the WRC would require the relocation of the composting sedimentation basin (as shown on Figure 3-1) to along the southern and eastern perimeter of the WRC building (Figure 13-3). No impacts are anticipated due to this basin relocation.

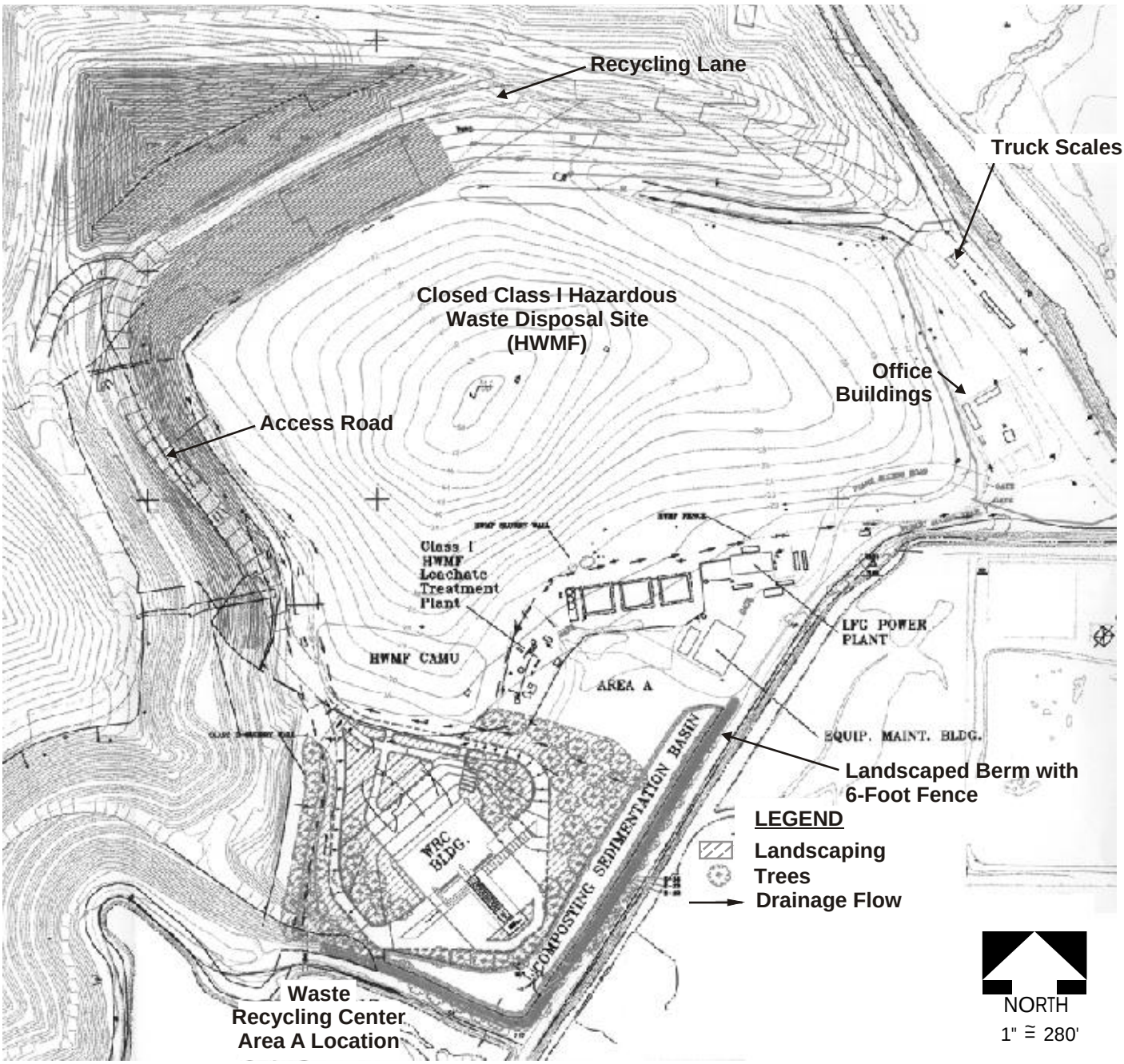
b. Aesthetics. Photomontages were prepared and presented in Chapter 7 for the proposed Project from two viewpoints. Viewpoint 1 is located on the levee that forms the southern boundary of WCCSL Area B which is part of the proposed realignment of Phase I of the Trail, and Viewpoint 2 is at the Wildcat Creek viewing platform about 3,000 feet south of the WCCSL site (Figure 7-3).

Before and after views from these viewpoints are shown on Figures 13-4 through 13-7, assuming the WRC is located in Area A. The reader should compare Figures 13-4/13-5 and 13-6/13-7 to distinguish the existing conditions from the proposed features of the WRC.

Viewpoint 1 was selected to compare and contrast relocated composting and concrete/asphalt recycling operations and the WRC at the proposed and alternative Area A location. Although quite visible to users of the Trail, the Area A location is in a depressed area of the WCCSL and not readily seen from other vantage points. An elevated berm with 6-foot fencing would be constructed along the southern and western borders of Area A to provide site security, to soften the appearance of the WRC, and buffer operations from users of the Trail (Figure 13-8). Although not shown on the photomontages, the berm would be planted with groundcover, shrubs, and compact trees to provide vegetative cover.

c. Traffic. The WRC at the Area A location would have the same 1,000 TPD7 design capacity as the WRC at the proposed location (i.e., former Soil Remediation Building). Thus, the traffic and circulation analysis included Chapter 8 for the proposed Project would also be applicable for the WRC at the Area A location. No significant on-site or off-site traffic impacts would occur.

d. Noise. The Mixed Waste Processing Area would be enclosed in the proposed WRC building and many of the same activities now occurring in an exposed area (e.g., the Waste Shuttle Facility) would cease when the WRC opens. The noise assessment for the proposed Project in Chapter 12 indicated that the vast majority of the Trail would be exposed to less than 70 decibels (dBA) as recommended in both the County and City General Plans. The WRC at the Area A location would expose Trail users to slightly higher noise levels than the background level of about 72 dBA for a few minutes as they walk past; however, the noise environment in this area is predominantly influenced by the LFG power plant, also located in Area A. The Applicant's proposed elevated landscaped berm in this location would help attenuate or reduce noise levels generated at the WRC.



Source: WCL, Inc., January 2003

Figure 13-3 Surface Drainage Plan for WRC at Area A Location

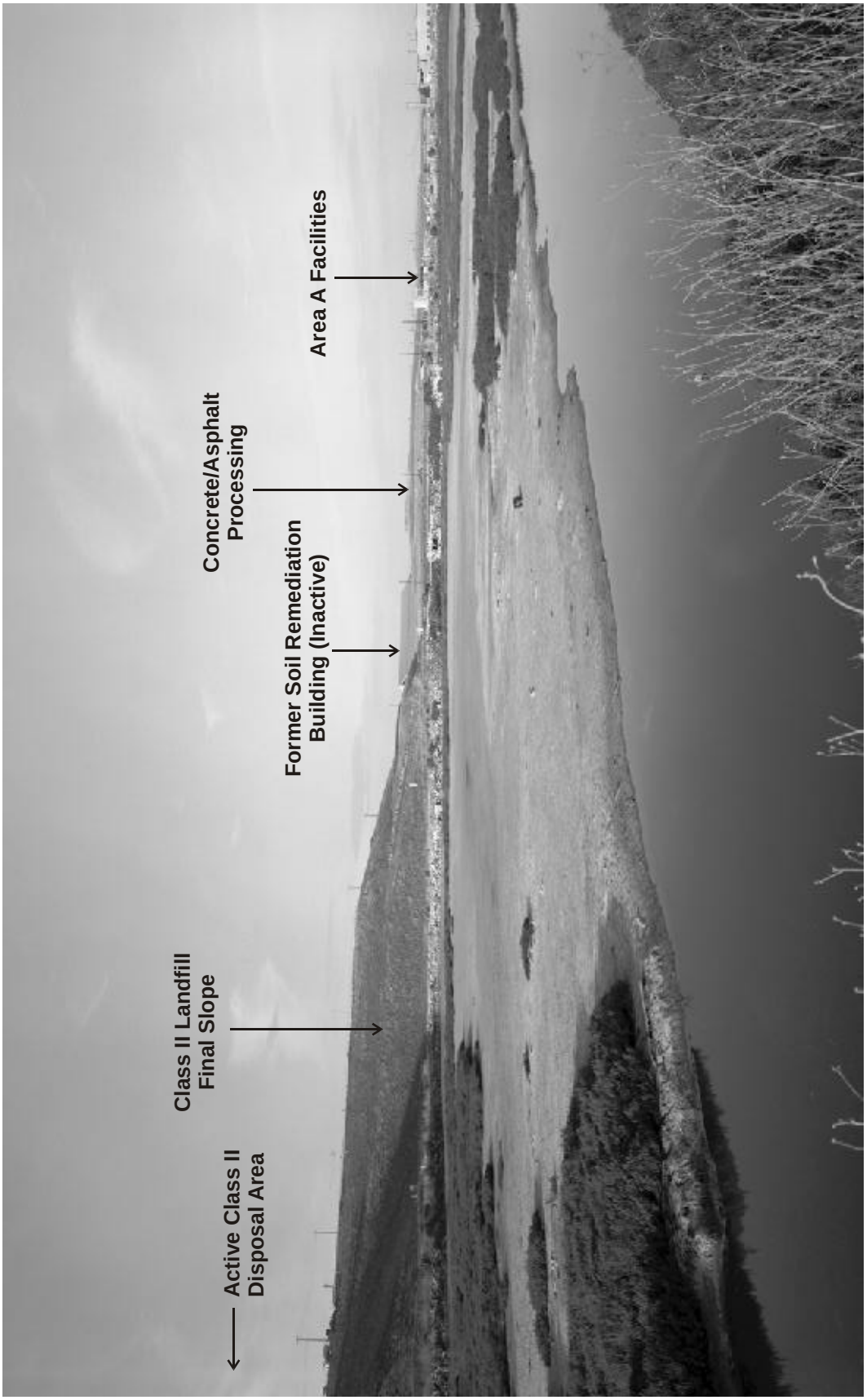


Figure 13-4 Existing Conditions from Viewpoint 1, Levee, Looking Northwest

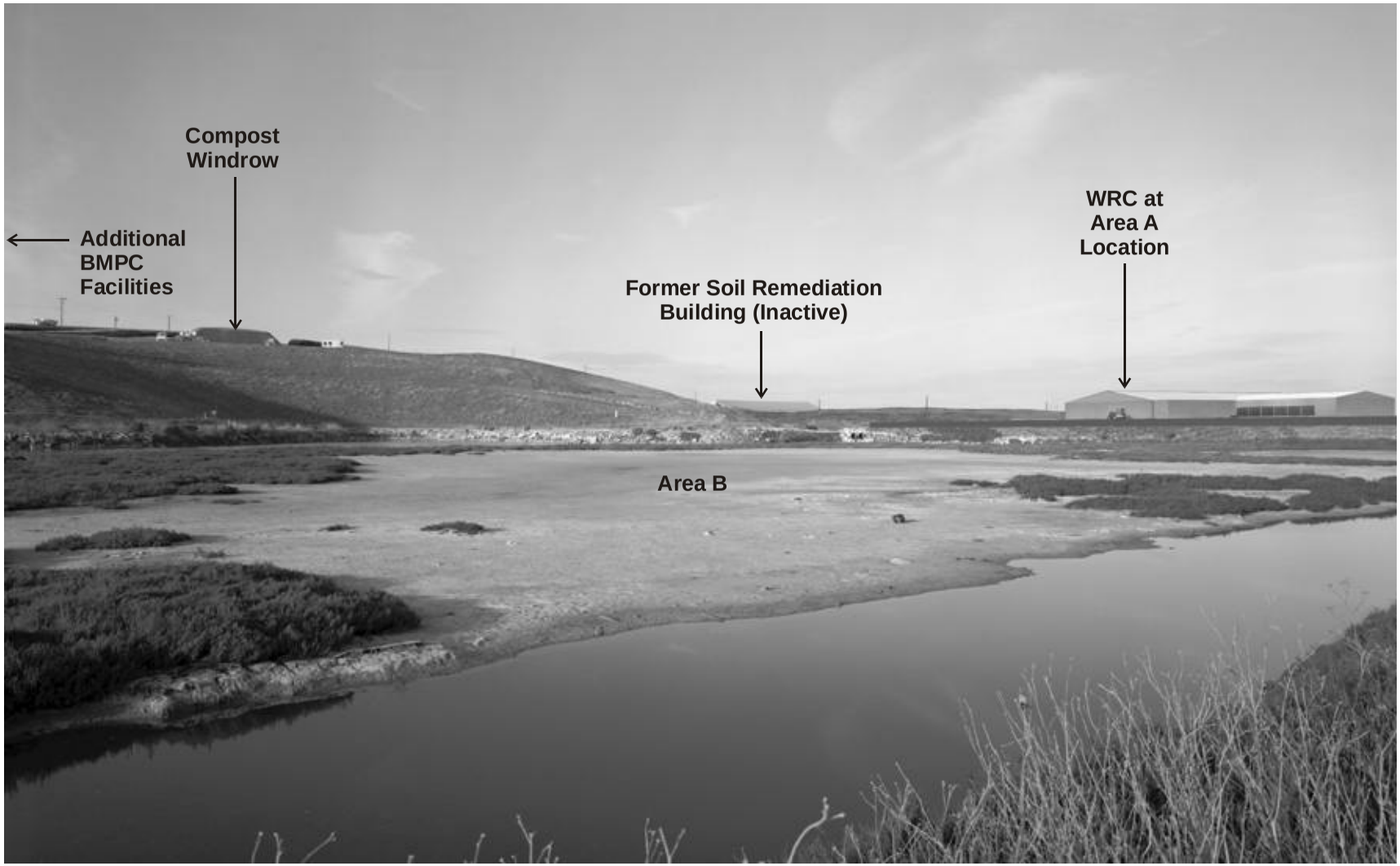


Figure 13-5 Proposed Conditions with the WRC at the Area A Location from Viewpoint 1, Levee, Looking Northwest

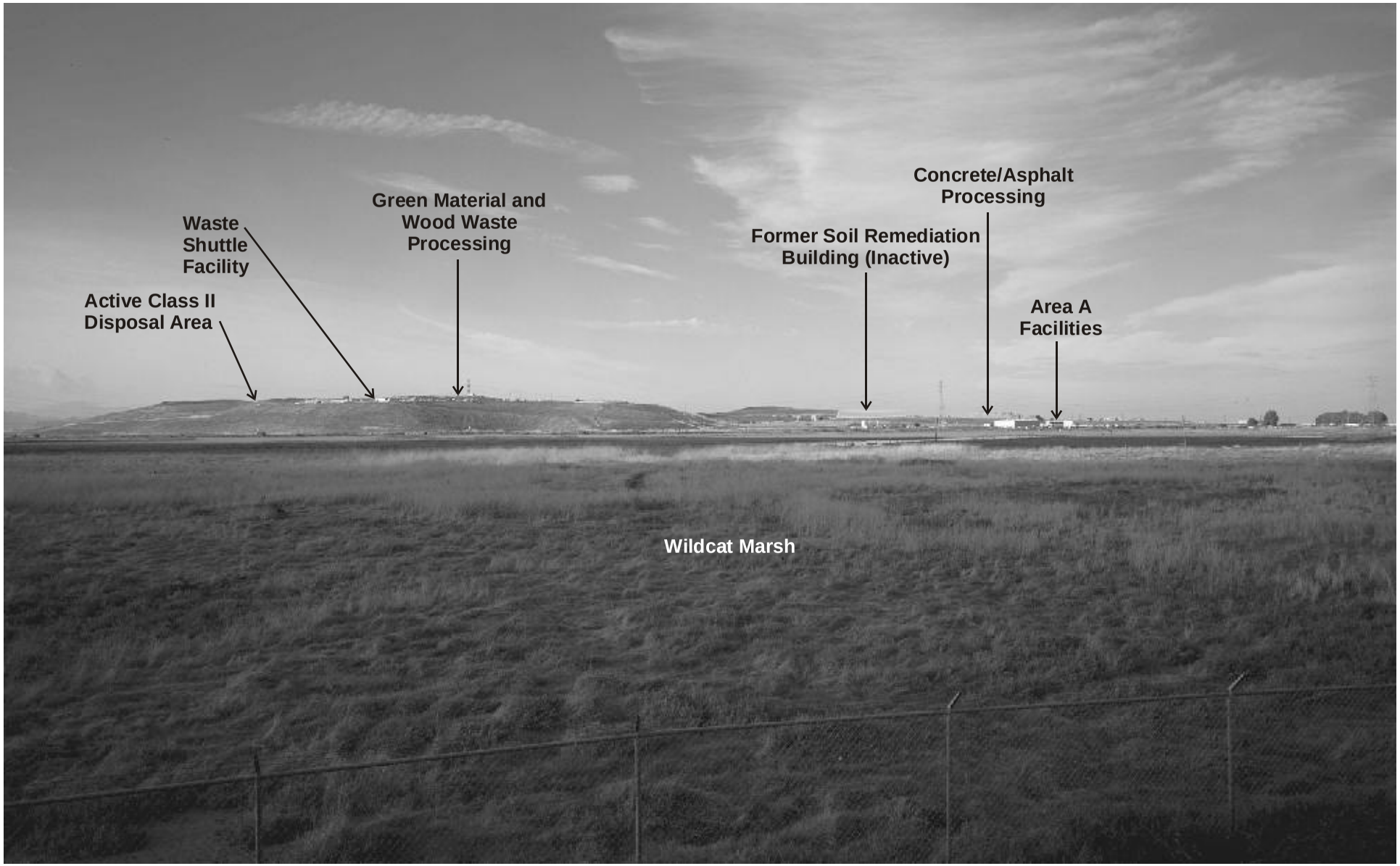


Figure 13-6 Existing Conditions from Viewpoint 2, Wildcat Creek, Looking Northwest

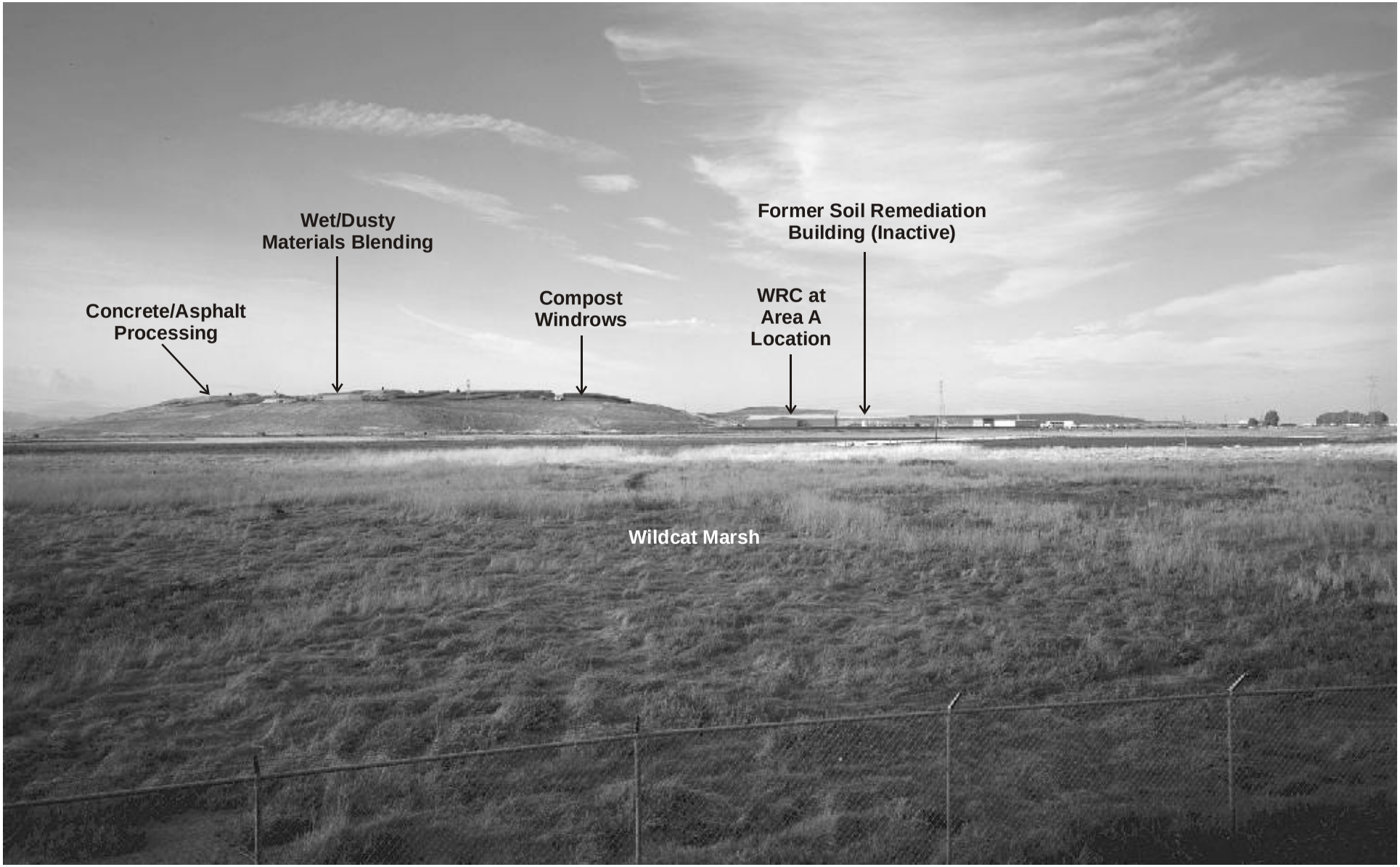


Figure 13-7 Proposed Conditions with the WRC at the Area A Location from Viewpoint 2, Wildcat Creek, Looking Northwest

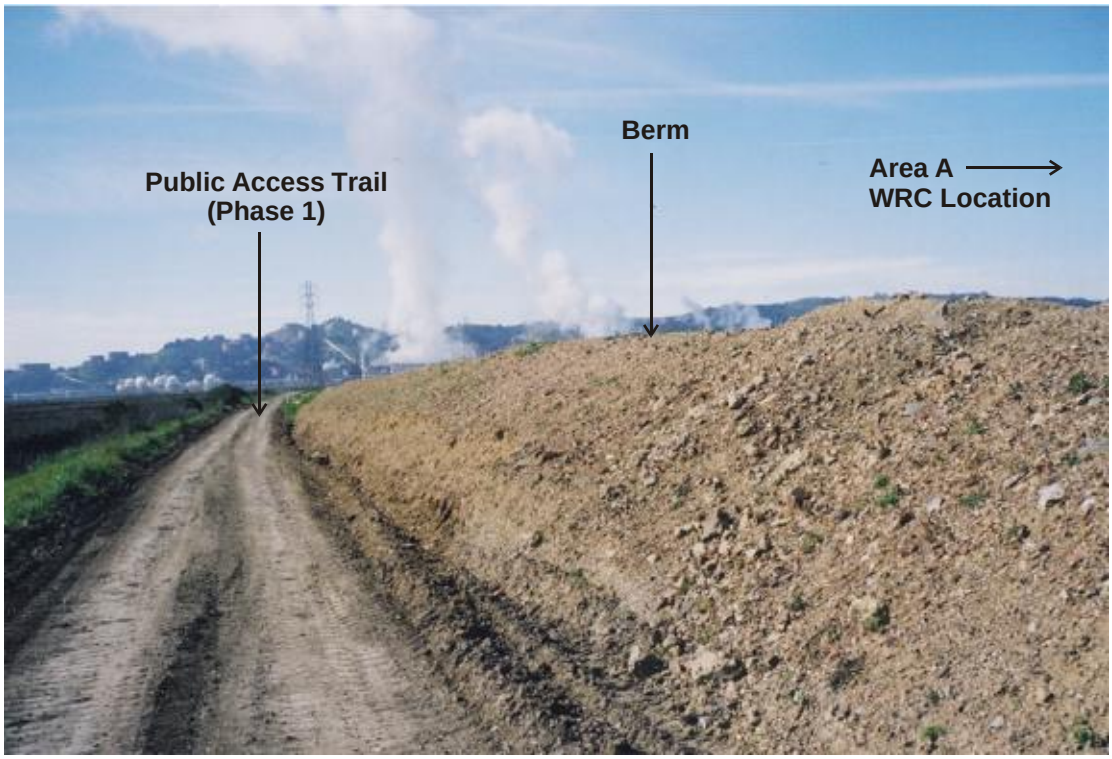


Figure 13-8 Berm Along Public Access Trail Looking Southwest. An elevated landscaped berm with 6-foot fencing would buffer Trail users and adjacent wetlands from WRC operations at the Area A Location.

e. Health and Safety. The new access road to the Area A location from Recycling Lane would conflict with and essentially preclude the use of about a 2.5-acre portion of the 22.5-acre area on the eastern landfill sideslope proposed for liquid biosolids and dredged materials application. While dried biosolids could be incorporated into the soils, liquid biosolids would produce aerosols that could impact users and workers of the nearby Area A WRC. Accordingly, if the Area A location is selected for the WRC, the Applicant would not use affected sideslope areas for liquid biosolids application; thereby potentially reducing the amount of these materials that can be processed by about 10 percent or 2.4 MG.

LFG should not be a significant issue at the Area A location. The Area A location is bounded by a slurry wall on the west that controls the Class II landfill. Because the Area A location is within 1,000 feet of the Class II landfill, LFG monitoring at the structure would be required (27 CCR §20923). The HWMF slurry wall is aligned along the south side of the HWMF, thus the Area A location would be protected along that edge. The slurry walls are from 20 to 35 feet deep and contain high moisture soil material that would serve as a barrier for LFG migration. Additionally, the HWMF is capped with a geomembrane that is gas tight. Therefore, with the limited LFG production in the HWMF, the cap, and the slurry wall, LFG migration should be prevented.

3. Comparison to Proposed Project

The alternative location at Area A has some practical advantages. Although the cost for the WRC would be greater at this location compared to adaptive reuse of the former Soil Remediation Building, there is ample space that would allow the Applicant to design a new facility unencumbered by settlement issues associated with the proposed WRC location. Use of the Area A location would also allow for removal of the former Soil Remediation Building, thus allowing that area of the WCCSL to be used for additional disposal activities. As indicated in Table 3-5 in Chapter 3, building removal would provide approximately 17 months of additional disposal capacity. If pursued, filling of this area has been evaluated in the EIR on the WCCSL Hazardous Waste Management Facility Closure and Postclosure Plans.[33] In lieu of filling this area, if the Applicant elects to do so, the former Soil Remediation Building could also be used to house the proposed wet/dusty material blending operation. Added revenues may partially offset the increased costs of removing the Soil Remediation Building, relocating the existing composting sedimentation basin, and designing and constructing a new WRC building and access road for the Area A location.

The proposed Project includes a WRC in the former Soil Remediation Building within the unincorporated County area which would be rehabilitated and expanded. The Area A location is within the City and would require access improvements. The building envelope would be different (44,400 sq. ft. for the proposed WRC and 37,500 sq. ft. for the alternative WRC at the Area A location), but the design capacities would be identical (1,000 TPD7) and operations would be the same. The environmental analysis of the proposed WRC did not reveal any significant unavoidable impacts aside from its contribution to the PM_{10} impact

(Impact 10-2), but a number of potentially significant environmental impacts were identified requiring mitigation.

Table 13-2 summarizes the potentially significant impacts associated with the proposed WRC at the former Soil Remediation Building location, and the Applicant's control measures and EIR mitigation measures. The table also compares the environmental effects of the WRC at the Area A location. Upon review of the table, it can be seen that many of the impacts associated with the WRC at the proposed location would also be associated with the WRC at the Area A location. From an environmental standpoint, the WRC could be constructed at either site without significant unavoidable impact. The one exception is increased PM_{10} emissions and exceedence of Bay Area Air Quality Management District (BAAQMD) threshold values. Use of the Area A location would have no measurable effect on this impact.

There are important differences between the two sites. The main difference is that the proposed site is located on the Class II landfill and is underlain by 15 to 20 feet of municipal solid waste. Because of the previous placement of waste, substantial differential settlement has occurred resulting in damage to the building and foundation. As discussed in Chapter 5, about 95 percent of decomposition of the refuse has occurred, but additional settlement would be expected requiring incorporation of geotechnical safeguards into WRC design and construction of building expansion. Because the WRC at this location would be on waste fill, precautions to prevent LFG migration into the facility, as well as ongoing monitoring, would be necessary. In addition, the proposed site is adjacent to the soil-attapulgite slurry wall separating the Class II landfill and the closed Class I HWMF. This requires additional studies to be completed and possible incorporation of additional control measures if new fill is placed to ensure the integrity of the wall is not compromised.

By comparison, the Area A location is not on the Class II landfill but rather on natural soil. In addition, over the years the Applicant has stockpiled large quantities of soil in this area for later use in WCCSL operations. These soils have since been removed, but their storage at the Area A location has "pre-loaded" site soils resulting in consolidation of underlying sediments and improvement of the value of the site as a buildable location. The Area A location is also not affected by issues associated with LFG migration and close proximity to the soil-attapulgite slurry wall. The WRC building is sufficiently far from the slurry wall and the additional grading for site development in minor. The Area A location also provides a location for building where site planning and design are not constrained by an existing building or other physical site constraints.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 4. Land Use, Plans, and Policies		
4-4. Proposed Project components are not consistent with the County or Regional NDFE.	Mitigation Measure a. The County and Authority would revise their NDFEs to include the WRC at the BMPC as a transfer station (non-disposal facility) pursuant to Article 7, Chapter 9, Division 7 of Title 14 of the California Code of Regulations (EIR).	Same impact and mitigation measure.
Chapter 5. Geology Soils, and Seismicity		
5-9. Slope deformation or slope failure at the proposed WRC site could impact the soil-attapulgite slurry wall.	Control Measures a. The inspection, monitoring, and repair plans outlined in the maintenance plan would be followed (Applicant). b. Following a significant earthquake (magnitude 6.5 or greater), the site would be inspected to evaluate the performance of the environmental control systems related to the Class I landfill. Slurry wall deformations in excess of 1 foot would require notification to the State Department of Toxic Substances Control (DTSC) and RWQCB within 14 days and repairs made pursuant to their recommendations (Applicant).	Site not located on the Class II landfill. No impact to the slope or slurry wall expected from the Area A location.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 5 (continued)	Mitigation Measure a. If new fill will be placed for renovation of the proposed WRC site, additional studies would be performed to evaluate potential settlement, slope stability, and movement of the soil-attapulgite slurry wall and recommendations would be incorporated into construction plans and specifications (EIR).	
5-10. Ground shaking during an earthquake would affect building structures and associated improvements.	Control Measure a. New buildings would be designed to meet the 1997 Uniform Building Code (UBC) Seismic Zone Factor 4 standards, and constructed in accordance with applicable building codes and regulations (Applicant). Mitigation Measure a. To ensure proper structural design, a geotechnical report would be prepared for all new buildings to be located on waste fill with recommendations included in construction plans and specifications. The geotechnical report would discuss the potential for differential ground surface settlement and the need for flexible utility connections (EIR).	Same impact and mitigation measures. A benefit of the Area A location is that it does not overlie the Class II landfill.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 5 (continued)		
5-11. The construction and operation of new buildings and facilities, as well as construction of the cap itself, could cause damage to the landfill cover (cap).	Control Measures a. During construction, the subgrade would be prepared properly to create a smooth surface and proper construction and quality assurance monitoring would be conducted consistent with the requirements of the Postclosure Plan (Applicant). b. If the cover (including the GCL) is damaged during construction or post-closure activities, it would be repaired or replaced (Applicant).	Site is not located on the Class II landfill. No impact to the cover system from the WRC at the Area A location.
Chapter 6. Water Resources		
6-4. The proposed Project could produce increased runoff or new sources of polluted runoff that could result in substantial erosion or siltation on or off site, or otherwise degrade surface water quality.	Control Measures a. A Notice of Intent and revised SWPPP related to proposed operations would be submitted for approval by the Executive Officer of the RWQCB; Best Management Practices (BMPs) would be implemented for control of storm water (Applicant). b. The existing Drainage, Erosion, and Sediment Control Plan would be modified pursuant to County Land Use Permit (LUP) No. 2054-92, as amended by LUP No. 2043-94, and City CUP No. 92-53. The FDIP revisions would be finalized, if amended use permits are obtained, and the Applicant would comply with permit conditions (Applicant).	Same impact and mitigation measures.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 6 (continued)	c. Modified or new SWFPs would be obtained from the LEA and CIWMB for the landfill, Composting Facility, and WRC and permit conditions would be followed (Applicant).	
Chapter 7. Aesthetics and Visual Quality 7-3. The proposed WRC/transfer station and expanded BMPC operations could introduce new sources of litter that could degrade the visual quality of the area.	<u>Control Measures</u> a. The existing Litter Control Program would be modified pursuant to County LUP No. 2054-92, as amended by LUP No. 2043-94, and City CUP No. 92-53, the FDIP revised, and if amended use permits obtained, adhered to permit conditions (Applicant). b. Revised and new SWFPs would be obtained and litter abatement requirements would be implemented (Applicant).	Same impact and mitigation measures.
Chapter 10. Air Quality and Odor 10-1. Construction of the WRC could result in dust nuisance.	<u>Mitigation Measures</u> a. All active construction areas would be watered at least twice daily and more often during windy periods (EIR). b. All trucks hauling soil, sand, and other loose materials would be covered or required to maintain 2 feet of freeboard (EIR).	Same impact and mitigation measures.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	c. All unpaved access roads, parking areas and staging areas at the construction site would be paved, watered three times daily, or receive applications of non-toxic soil stabilizers (EIR). d. All paved access roads, parking areas, and staging areas at the construction site would be swept daily with water sweepers (EIR). e. Inactive constructions areas would be hydroseeded or non-toxic soil stabilizers would be applied (EIR). f. Exposed stockpiles would either be enclosed, covered, watered twice daily, or receive application of non-toxic soil stabilizers (EIR). g. Traffic speeds on unpaved roads would be limited to 15 mph (EIR).	
10-2. Increased emissions, which, with other Project sources, exceed BAAQMD PM_{10} thresholds.	<u>Control Measures</u> a. The main access road would initially be graveled, treated with chemical dust suppressants and regularly watered. After land settlement, the main access road would be paved (Applicant). b. Handling and sorting would occur within an enclosed or partially enclosed WRC structure (Applicant).	Same impact and mitigation measures.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	c. Roads, unloading areas and the processing area would be paved, and sweepers or vacuums would be used to keep these surfaces clean (Applicant). d. Periodic watering would be used on internal roads as needed, and wind fences would be strategically located to control wind erosion (Applicant). e. Wastes would be pre-screened to avoid dusty materials (Applicant).	
10-6. Operation of the WRC could create objectionable odors.	<u>Control Measures</u> a. Only wastes that are consistent with 14 CCR §17863.4 and the OIMP would be accepted (Applicant). b. Loaded transfer vehicles would be covered and properly maintained to minimize odors (Applicant). c. Wastes would be processed within 48 hours of receipt to prevent significant odor buildup from waste decomposition (Applicant). d. Routine cleaning of floors, walls and equipment would be conducted (Applicant).	Same impact and mitigation measures.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	e. Wastes in processing areas would be treated with odor suppressants as deemed necessary or required by the LEA or BAAQMD (Applicant). f. Odor complaints documented by the LEA or BAAQMD would be responded to within 2 working days detailing the problem and remedial action to be taken. Additional physical improvements or management practices would be implemented as necessary under the review and oversight of the LEA and BAAQMD (Applicant).	
Chapter 11. Health and Safety 11-1. Increased hazards associated with exposure to new materials and increased material processing.	<u>Control Measures</u> a. The existing WCCSL Public Health and Safety Plan required pursuant to County and City use permits, would be modified, amended permits sought, and permit conditions followed (Applicant). b. The requirements of the Richmond Fire Department, building codes, and CAL/OSHA would be incorporated into the design, construction, and operation of new facilities (Applicant).	Same impact and mitigation measures.

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11 (continued)	c. Formal training of personnel would continue to be conducted that includes the proper use of facility equipment; identification, avoidance, and reporting of conditions that could potentially compromise safety; identification and management of HHW; regular safety meetings; and annual review and refresher training to ensure continued safe operation and compliance with regulations (Applicant). d. Users of the facility would be restricted to designated areas for unloading and loading of materials through the use of temporary barriers, signage, and staff. Restricted areas or areas of potential risk would be off limits to the general public (Applicant). e. Workers would be equipped with the appropriate safety clothing. Safety equipment would be readily available for all site personnel (Applicant). f. The hazardous waste screening program in place at the WCCSL and BMPC facilities would be continued (Applicant).	

Table 13-2. Comparison of Environmental Effects of Alternative Waste Recycling Center Sites and Layouts (continued)

Proposed WRC location		Environmental effects of Area A location
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11 (continued)		
11-4. LFG contains methane, which is explosive in the 5 to 15 percent range under conditions of confined space with sufficient oxygen for combustion.	Control Measure a. The WRC building expansion would be constructed with the necessary LFG controls consistent with the requirements of the LEA and the Richmond Fire Department, and the facility would continue to be included in the LFG monitoring program (Applicant).	Site not located on the Class II landfill. The Area A location is bounded on the west by the Class II landfill slurry wall and protected from the Class I landfill by its slurry wall which serve as barriers to LFG migration. Additionally, the HWMF is capped with a geomembrane that is gas tight. Because the Area A location is within 1,000 feet of the Class II landfill, LFG monitoring at the structure would be required (27 CFR §20923).
11-5. The receipt, processing and disposal of solid waste materials has the potential to create a fire hazard with associated health and safety impacts.	Control Measures a. A Fire Protection Component for the WRC meeting requirements of the Richmond Fire District and the LEA to contain and extinguish fires originating at the facility would be developed and implemented (Applicant). b. All required permits from the Richmond Fire Department would be obtained and the Applicant would comply with permit conditions (Applicant). c. Any incoming burning wastes would be deposited in a safe area and extinguished pursuant to 27 CCR §20780 (Applicant). d. The WCCSL Emergency Response and Evacuation Plan would be implemented as necessary (Applicant).	Same impact and mitigation measures.

D. ALTERNATIVE COMPOSTING PROCESS

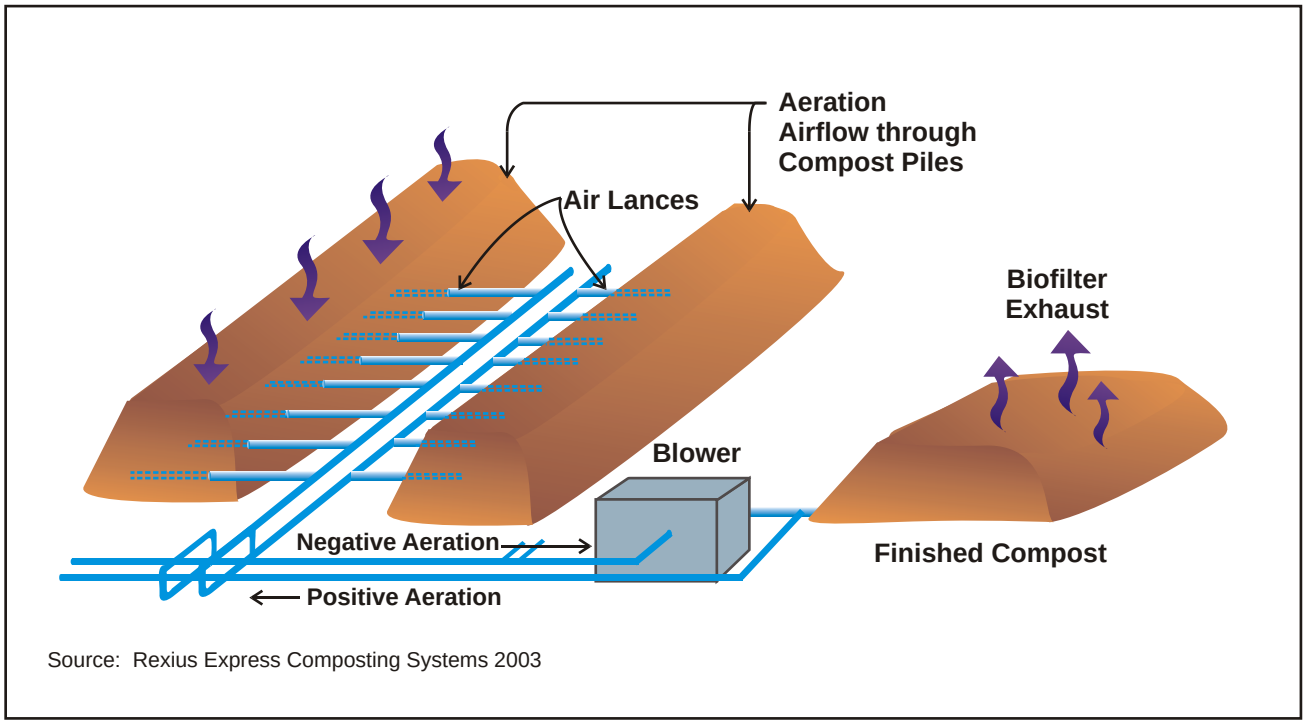
The proposed Project involves the continued use of windrow composting process for the expanded Composting Facility. Discussion in Chapter 10, Air Quality and Odor, indicates this composting process has potential for creating significant odor impacts because of the use of additional feedstock materials with a high odor potential under varied climatic conditions. EIR recommended Mitigation Measure 10-5(b) requires the Applicant to conduct a 1-year demonstration project, under the review and oversight of the Local Enforcement Agency (LEA), to ensure composting operations and controls maintain an efficient operation under various climatic conditions that controls odors, as well as nuisance pests.

The Applicant has identified aerated static pile as an alternative composting process, which is discussed and analyzed in this section. The aerated static pile composting process was developed by the composting industry to reduce land area requirements and other problems that can develop with the windrow composting process. At large scale, the Applicant believes the aerated static pile process may be more economical at the WCCSL than windrow composting. The aerated static pile process is described below, along with environmental considerations and comparison to windrow composting.

1. Description

The Composting Operations Plan Summary in Appendix 3B addresses windrow and aerated static pile composting processes. Figure 13-9 is a schematic diagram showing the layout of the aerated static pile process that may be used by the Applicant. The system is sold by Rexius Forest By-Products and is called Express Composting Systems.

a. Process. After the compost feedstock is prepared (e.g., shredded) and mixed, the materials are placed into static piles. Underlying the piles is a network of "air lances" that are connected to a plastic piping network. The piping system is connected to the suction side of a blower. Atmospheric air is drawn through the compost piles by the negative pressure and discharged from the blower to a piping system that exhausts the air through a biofilter comprised of finished compost. Pulling the air through the compost piles maintains aeration and minimizes or eliminates the need for turning. Turning is not required for aerated static pile as it is for the windrow composting process. According to 14 CCR §17867.3, for the aerated static pile process all active compost shall be covered with 6 to 12 inches of insulating material and the active compost shall be maintained at a temperature of 131 degrees Fahrenheit or higher for a pathogen reduction period of 3 days. The piping for the aerated static pile process is portable and reusable for subsequent batches of compost. When composting facility biofilters are properly designed and operated, they remove more than 90 percent of the odor compounds that pass through the system.[67]



Source: Rexius Express Composting Systems 2003

Figure 13-9 Layout of the Aerated Static Pile Composting Process

To deter vectors and nuisance pests, a blanket of up to 1 foot of finished compost is placed over the aerated static piles as they are formed. This is done on a daily basis as the piles are formed or extended. The system is designed for a minimum of 21 days of active composting, during which time the process will be continuously monitored for key process parameters, most notably temperature and moisture. The Applicant would follow 40 Code of Federal Regulations, Part 503 (40 CFR Part 503) when composting biosolids so that the end product would be designated as a Class A, Exceptional Quality product.

The aerated static pile process proposed by the Applicant is designed to make composting as quick and odor-free as possible, and to do it in a way that competes economically with mechanically-turned windrow systems. Condensate would be produced during the cooler weather when the aeration piping would be cold enough (probably January through March) to condense the moist air being drawn through the piles. The aeration piping would be sloped to drain to low points where the condensed moisture would accumulate. This condensate can be pumped and blended into the feedstock or pumped into a treatment system depending upon the needs of the operators. At the WCCSL, if necessary, it would be possible to discharge the condensate to the landfill leachate pumping system.

To handle the incoming 450 TPD (630 TPD peak) of all materials to be composted (e.g., green waste, wood waste, food waste), up to six 50-horsepower systems would be employed providing up to 21 days of active composting. These units would be run on electricity generated through combustion of LFG at the landfill power plant. Each individual system is a stand-alone unit. The system is designed for aboveground installation on an improved surface. Each 50-horsepower unit would consist of four aerated piles of approximately 725 cubic yards (270 tons) each.

After the 21-day composting process is complete, the aerated static piles would be broken down and piled into static pile windrows for up to 6 months to allow for final product stabilization and maturation. These static piles would be located adjacent to the aerated static piles. After the compost has been cured for the designated period, the compost will be screened to develop products that meet specifications for both on-site and off-site uses.

b. Development and Phasing. The Applicant does not propose to implement the aerated static pile composting process on a full-scale basis initially. The Applicant anticipates that the initial process development would begin in 2004 after required permits are obtained. During this initial development phase, the Applicant anticipates one or two piles would be used, each about 200 feet long. Experience would be gained on processing the various feedstocks under varied climatic conditions. During the spring of 2004, the aerated static pile process would run in parallel with windrow composting. By the fall of 2004, it is the Applicant's intent that the aerated static pile process would be used primarily for the wet weather season of 2004/2005. By that time, the Applicant expects the business program to have been developed for the processed materials and the tipping fee economics for the regional feedstock clients.[68]

Within several years, the Applicant anticipates the aerated static pile to be almost a complete replacement process. The windrows may continue to be used during the dry season to take advantage of additional amounts of green materials produced during the growing season. Thus, the windrows could serve to provide extra seasonal processing capacity.

The Applicant believes there to be sufficient area available for the aerated static piles to process the entire quantity proposed (see Table 3-1 in Chapter 3). The raw material or finished product stockpile amounts generally would be similar between the aerated static pile and the windrow process.

2. Environmental Considerations

Use of aerated static pile process would meet the Applicant's Project objectives. The aerated static pile composting process is a relatively high technology approach for composting the various feedstock materials proposed for the BMPC. The process was originally developed by the composting industry to reduce the land area requirements and other constraints common to the windrow process. The aerated static pile process provides for more flexible operation and more precise control of oxygen and temperature conditions in the piles than would be achieved in a windrow system. Since the time required for aerated static pile composting tends to be slightly shorter and anaerobic conditions can be more readily prevented, the potential for odor generation is reduced. Use of a layer of finished compost over the piles has many benefits, including abatement of odors that can be emitted as well as reducing the attraction to flies. The biofilter is an effective measure to remove odorous compounds that pass through the system. In addition, the aerated static pile process is less affected by weather than the windrow system, and because frequent turning of the piles is not required (possibly once every 14 to 21 days), an additional source of odors and particulate emissions is reduced. Other benefits related to the aerated static pile process are summarized in Section C3 below.

In addition to the higher initial capital cost, there can be several disadvantages of the aerated static pile process. To ensure that decomposition proceeds at high rates, temperature and oxygen levels must be closely monitored and maintained. Although better suited for relatively dry feedstock materials that have a relatively uniform particle size of less than 1.5 to 2 inches in diameter, wet materials can be used but clumping must be controlled by proper mixing of bulky materials that adjust porosity and moisture. Another disadvantage includes decreased ability to adjust moisture in the composting mass after the initial mix.[69,124]

3. Comparison to Proposed Project

The proposed Project includes use of the windrow composting process to compost a variety of feedstock materials on a year-round basis. Operations would be substantially expanded from the existing 27 TPD7 to 450 TPD7. The environmental analyses of the proposed Composting Facility expansion in this EIR did not reveal any significant unavoidable impacts

aside from its contribution to PM_{10} impact (Impact 10-2), but a number of potentially significant environmental impacts were identified related to expanded composting requiring mitigation.

Table 13-3 summarizes the potentially significant impacts associated with windrow composting and the Applicant's control measures and EIR recommended mitigation measures. The table also compares the environmental effects of the alternative aerated static pile composting process. Upon review of the table, it can be seen that many of the impacts associated with the windrow composting would also be associated with aerated static pile composting, requiring the same mitigation measures. However, there are important differences, identified in Table 13-3.

The aerated static pile process provides for more efficient operation compared to windrows and is less affected by weather. As discussed above, it provides for more precise control of oxygen and temperature conditions in the pile than would be obtained in a windrow system. Since the time required for composting is shorter with aerated static pile and anaerobic conditions can be more readily prevented, the risk of nuisance odor generation can be reduced. The use of an insulating cover layer of finished compost over the piles and use of a biofilter, as proposed, would provide for effective odor control. The insulating layer of finished compost also serves to discourage flies and other nuisance pests and, because frequent turning of the piles is not necessary, odors and particulate emissions would be reduced.

For windrow composting, a 1-year demonstration project was recommended in Mitigation Measure 10-5(b) to assess the performance of that process with proposed feedstock materials under varied climatic conditions. For aerated static pile, such a demonstration project is not considered necessary. The Applicant has, in fact, proposed to transition this process into BMPC operations by beginning with a limited operation during the winter of 2003 and gradually expanded to a point where it would be the primary composting process. During this initial development phase, experience would be gained on processing the various feedstocks and the effects of differing weather conditions. Within several years, aerated static pile would be almost a complete replacement process with windrows used during the dry season to provide seasonal processing capacity.

E. PREFERRED ENVIRONMENTAL ALTERNATIVE

The Preferred Environmental Alternative (PEA) results from environmental analysis of the proposed Project included in Chapters 4 through 12 and the evaluation of alternatives in this chapter. With the exception of PM_{10} emissions, the proposed Project and this alternative mitigates the significant adverse impacts associated with the proposed Project; however, this alternative mitigates certain impacts to a greater degree. The main components of the PEA are summarized in Table 13-4.

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 6. Water Resources		
6-4. Increased runoff or new sources of polluted runoff and degradation of surface water quality.	Control Measures a. A Notice of Intent and revised SWPPP related to proposed operations would be submitted for approval by the Executive Officer of the RWQCB; Best Management Practices (BMPs) would be implemented for control of storm water (Applicant). b. The existing Drainage, Erosion, and Sediment Control Plan would be modified pursuant to County Land Use Permit (LUP) No. 2054-92, as amended by LUP No. 2043-94, and City CUP No. 92-53. The FDIP revisions would be finalized, if amended use permits are obtained, and the Applicant would comply with permit conditions (Applicant). c. Modified or new SWFPs would be obtained from the LEA and CIWMB for the landfill, Composting Facility, and WRC and permit conditions would be followed (Applicant). d. BMPs at the Composting Facility would be employed that would optimize applied water to the windrows while minimizing the generation of leachate (Applicant).	Same impact and mitigation measures. A benefit of aerated static pile is that less water is required for maintenance of the piles resulting in a lower potential for surface runoff.

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10. Air Quality and Odor		
10-2. Increased emissions, which, with other Project sources, exceed BAAQMD PM_{10} thresholds.	Control Measures a. Green material and wood shredding/screening equipment would be equipped with water sprays (Applicant). b. Green waste, wood waste, and composting materials would be watered as unloaded (Applicant). c. Green waste, wood waste, and composting materials would be pre-screened to avoid dusty materials (Applicant). d. Windrows and intervening pathways would be watered prior to turning of windrow (Applicant). e. Internal roads in the Organic Materials Processing Area would be watered at least twice daily, more often when windy (Applicant). f. Finished stabilized compost would be screened and loaded during low wind speed conditions (less than 20 mph); handling of compost would be suspended if the wind speed increases (above 20 mph) (Applicant). g. Berms would be used in the Organic Materials Processing Area to provide an upwind barrier to reduce wind effects (Applicant).	Same impact and mitigation measures. A benefit of aerated static pile is that PM_{10} emissions associated with the windrows would be reduced because little, if any, turning of the piles is required. However, the significant unavoidable PM_{10} impact would remain. Diesel exhaust emission would be reduced slightly as regular turning of the windrows by diesel equipment would not be necessary

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	h. Wind fences would be strategically located in the Organic Materials Processing Area to control wind erosion (Applicant). <u>Mitigation Measure</u> a. The Applicant would, at the earliest practical date, prepare applications to the BAAQMD for new sources proposed to be located at the site, obtain required BAAQMD permits, and comply with all permit conditions (EIR).	
10-5. The Organic Materials Processing Area and expansion of the Composting Facility could create objectionable odors.	<u>Control Measures</u> a. The Applicant would work with the LEA to assure facility compliance with the Odor Impact Minimization Plan (Applicant). b. Food processing materials would be rapidly incorporated (within hours) with other compostible materials, shredded materials, or compost (Applicant). c. The windrows would be turned an average of twice per week to maintain aerobic conditions (Applicant). d. A monitoring program would be implemented to track the composting process and implement operational adjustments as necessary (Applicant). e. The operations area would be regarded as needed to ensure drainage and prevent ponding of compost leachate (Applicant).	Aerated static pile would substantially reduce the nuisance odor potential compared to windrow composting. Issues associated with receipt and initial processing of feedstocks remain. For aerated static pile, frequent pile turning is not required and conduct of a 1-year demonstration project is not considered necessary.

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	Mitigation Measures a. The turning of the windrows would be limited when the wind is blowing inland toward potential receptors. Turning and screening operations would be curtailed when wind speeds exceed 20 miles per hour (mph) toward developed areas (EIR). b. A 1-year composting demonstration project would be conducted under the review and oversight of the LEA and BAAQMD. The demonstration project would focus on all feedstock materials with a high nuisance odor potential and would identify composting operations and controls necessary to ensure an efficient operation that would control odors under various climatic conditions. Based on the results of the demonstration project, the LEA and BAAQMD would specify the conditions these feedstock materials could be used at the Composting Facility as part of the Composting Facility permitting process. The demonstration project shall include, but not be limited to, the following items: ▪ The scale of the demonstration project needs to duplicate the pile size and operational factors of the planned facility, so that valid data are collected at full-size operation. ▪ The span of feedstock combinations needs to encompass the range of expected future options, concentrating on worst-case combinations from processing, operations, and odor standpoints.	

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 10 (continued)	▪ Monitoring during the demonstration period needs to include standard compost processing monitoring parameters as well as odor emission data during different operating and climate/wind conditions. Odor data should include emissions of critical constituents such as reduced sulfur compounds and reduced nitrogen compounds, as well as total odor emission data collected via odor panel and with flux chamber protocols. Downwind odor data should be collected concurrent with pile or source emission data to correlate the impacts. ▪ Odor impacts from demonstration scale will need to be extrapolated for the full-scale system through odor modeling or similar approach that achieves valid predictions of odor from the large proposed system. ▪ Odor data should be identified for any compost leachate liquid or storm water runoff liquid coming from the demonstration piles/area (EIR).	

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11. Health and Safety		
11-1. Increased hazards associated with exposure to new materials and increased material processing.	Control Measures a. The existing WCCSL Public Health and Safety Plan required pursuant to County and City use permits would be modified, amended permits sought, and permit conditions followed (Applicant). b. The requirements of the RFD, building codes, and CAL/OSHA would be incorporated into the design, construction and operation of new facilities (Applicant). c. Formal training of personnel would continue to be conducted that includes the proper use of facility equipment; identification, avoidance and reporting of conditions that could potentially compromise safety; identification and management of HHW; regular safety meetings; and annual review and refresher training to ensure continued safe operation and compliance with regulations (Applicant). d. Users of the facility would be restricted to designated areas for unloading and loading of materials through the use of temporary barriers, signage, and staff. Restricted areas or areas of potential risk would be off limits to the general public (Applicant). e. Workers would be equipped with the appropriate safety clothing. Safety equipment would be readily available for all site personnel (Applicant).	Same impact and mitigation measures.

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11 (continued)	f. The hazardous waste screening program in place at the WCCSL and BMPC facilities would be continued (Applicant).	
11-5. The receipt, processing and disposal of solid waste materials has the potential to create a fire hazard with associated health and safety impacts.	<u>Control Measures</u> a. The existing Fire Protection Component for the Composting Facility would be revised as necessary under the review and oversight of the local fire districts and the LEA (Applicant). b. All required permits from the Richmond Fire Department would be obtained and the Applicant would comply with permit conditions (Applicant). c. Necessary measures at the landfill would be taken for prompt fire control at the landfill, including use of heavy equipment, stockpiled soil, and water suppression (Applicant). d. Any incoming burning wastes would be deposited in a safe area and extinguished pursuant to 27 CCR §20780 (Applicant). e. The WCCSL Emergency Response and Evacuation Plan would be implemented as necessary (Applicant).	Same impact and mitigation measures. A benefit of aerated static pile is that more precise control of oxygen, moisture and temperature conditions can be achieved, thus reducing the fire risk associated with windrow composting.
11-6. The generation of bioaerosols and endotoxins during the composting process can create health and safety issues for employees and users of the facility.	<u>Control Measures</u> a. Water would be applied at least twice daily, more often when windy, on internal roads for dust control purposes (Applicant).	Same impact and mitigation measures. Because aerated static pile requires little, if any, turning and the piles would be covered with a layer of finished compost, the piles would be a reduced source of bioaerosols and endotoxins compared to windrows.

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11 (continued	b. Green waste, wood waste, and composting materials would be watered as unloaded (Applicant). c. Green waste, wood waste, and composting materials would be pre-screened to avoid dusty materials (Applicant). d. Water spray would be applied during the shredding process to wet the material being shredded (Applicant). e. Water would be applied on the compost windrows and pathways prior to aeration (turning) (Applicant). f. Finished stabilized compost would be screened and loaded during low wind speed conditions (less than 20 mph); handling of compost would be suspended if wind speed increases above 20 mph (Applicant). g. Heavy equipment would have enclosed cabs for operators and other employees would be required to use dust masks (Applicant). h. Wind fences and berms would be strategically located in the Organics Materials Processing Area to reduce wind effects and control wind erosion (Applicant).	

Table 13-3. Comparison of Environmental Effects of Windrow and Aerated Static Pile (continued)

Windrow composting		Environmental effects of aerated static pile composting
Applicable EIR significant impact	Applicable mitigation (EIR) or control measure (Applicant)	
Chapter 11 (continued)		
11-8. Elevated levels of organic chemicals in biosolids which can make compost harmful.	Control Measure a. Prior to accepting biosolids from WCWD or other sources, or dredged materials, the Applicant would enforce WCCSL's Waste Acceptance Guidelines and require the project sponsor to provide sufficient chemical characterization data that would enable the Applicant to demonstrate to the RWQCB that the material is non-hazardous pursuant to 40 CFR Part 261 and 22 CCR, Division 4.5, Chapter 11, Article 3 (Applicant)..	Same impact and mitigation measure.
11-10. Elevated pathogen and pollutant levels in finished compost.	Control Measure a. The Applicant would comply with Federal and State regulatory standards for compost operation, pollutant concentrations, pathogen reduction, monitoring, record keeping, and reporting (Applicant).	Same impact and mitigation measures. A benefit of aerated static pile is that a more uniform temperature can be achieved in the piles, resulting in increased efficiency and shorter composting period.
11-11. Facilitate spread of the plant pathogen, *Phytophthora ramorom*, the causative agent of Sudden Oak Death.	Control Measure a. The Applicant would comply with new revised Federal rule and revised California rule regarding composting and control of *Phytophthora ramorum*, expected some time in 2003. If finished compost or mulch are transported out of the quarantined area, a compliance agreement would be executed with the County Agricultural Commissioner at the required time and specified conditions therein would be followed (Applicant).	Same impact and mitigation measure.

Table 13-4. Summary of the PEA

PEA component	Main characteristics
Use permit change	
Expanded Facility Operating Hours	• Extend equipment maintenance hours from 7:00 a.m. to 6:00 p.m. Monday through Saturday to 5:00 a.m. and 10:00 p.m.
	• Extend hours for transporting of BMPC materials from 7:00 a.m. to 5:00 p.m., 7 days per week to 24 hours per day.
	• Extend hours for operation of concrete/asphalt processing equipment from 7:00 a.m. to 5:00 p.m. Monday through Saturday to 5:00 a.m. to midnight.
	• Extend hours for chipping and grinding of wood from 7:00 a.m. to 5:00 p.m., 7 days per week to 5:00 a.m. to midnight.
	• Allow WRC operation to be 24 hours per day, 7 days per week.
Expanded Composting	• Aerated static pile as primary composting process within several years with windrows providing seasonal processing capacity.
	• Expand the types and volume of materials composted.
	• 164,300 tons of compostables processed annually.
Expanded Concrete/Asphalt Processing	• Relocate to landfill central plateau.
	• 528,000 tons of concrete and asphalt processed annually.
New WRC	• Area A location and layout.
	• 365,000 tons of mixed waste processed annually.
New Wet/Dusty Material Blending	• 51,100 tons of dry waste processed annually.
Expanded Wood Recovery	• 131,400 tons of wood waste processed annually.
New Soil Reclamation and Biosolids/ Dredged Materials Spreading	• 195,000 tons of soil, dredged materials, and biosolids processed annually.
Related Actions	
Class II landfill height increase	• Increase landfill height to 160 feet msl (top of waste) with improved drainage management.
Pubic Access Trail Alignment	• Phase 1, 2, and 3 alignments only. Eliminate Phase 4.
Mitigation Measures	• See Table 2-1 in Chapter 2.

1. Proposed Project

The proposed Project as modified by alternatives described below in Sections E2, E3, and E4 comprises the PEA. The primary sources of information for the Project include the Applicant's Report of Disposal Site Information,[1] the BMPC Final Development and Improvements Plan,[3] the Transfer/Processing Station Report,[43] the Report of Composting Site Information,[4] and the BMPC Land Use Permit Application.[28] Chapter 3 provides a description of the Project based on these information sources.

2. Aerated Static Pile

The proposed Project includes use of windrow composting for the expanded Composting Facility. Aerated static pile has been identified as an alternative composting process that is discussed in detail in Section C. The aerated static pile process would be a more suitable process for the types of feedstock materials proposed by the Applicant to be composted at the WCCSL. It is a composting process that provides for more efficient operation, is less affected by weather, and it provides for more precise control of oxygen, moisture and temperature in a pile than would be obtained in a windrow system. The risk of nuisance odor generation would be reduced because anaerobic conditions can be more readily prevented, an insulating cover layer of finished compost would be placed over the piles, and the use of a biofilter for treatment of exhaust drawn through the piles.

For windrow composting, this EIR recommended Mitigation Measure 10-5(b) requiring a 1-year demonstration project to assess the performance of that process with proposed feedstock materials under varied climatic conditions. Such a demonstration project is not considered necessary for the aerated static pile process. The Applicant proposes to transition this process into BMPC operations, beginning during the winter of 2003/2004 and gradually increasing to a point where it would be the primary composting process. Experience would be gained on processing the various feedstocks and the effects of differing weather conditions. Ultimately, aerated static pile composting would almost completely replace the windrow composting process. Windrows would then be used during the dry season to provide extra seasonal processing capacity when green material production is greatest. Thus, the PEA includes the use of the aerated static pile process as the primary composting process. Windrow composting would be limited to providing additional seasonal processing capacity for green materials. Use of feedstock materials other than currently permitted green materials would be subject to the approval of a revised Composting Facility Permit from the LEA and the California Integrated Waste Management Board.

3. Alternative WRC Site

Based on the analysis in this EIR, the proposed WRC could be constructed at either the proposed site at the former Soil Remediation Building, or at the Area A location (this alternative

is discussed in Section B). At either site, Applicant's control measures included in the Project and mitigation measures recommended by this EIR together reduce impacts to less-than-significant levels. The decision on which site to be used for the WRC can also be based in part, on non-environmental criteria such as cost.

For purposes of this EIR, the Area A location, with associated WRC development plan, is included in the PEA. The Area A location is not located on the Class II landfill and is not, therefore, subject to the same constraints associated with rehabilitation of an existing building, differential settlement, possible LFG migration, and proximity to the soil-attapulgite slurry wall that separates the Class II landfill and the closed Class I HWMF. Use of the Area A location permits the design of a new building where operational efficiency can be maximized without the presence of physical or site constraints. Soils at the Area A location have been "pre-loaded" from past soil stockpiling activities, thus further improving the engineering properties of the site. Finally, use of the Area A location allows the former Soil Remediation Building to be removed and the resulting area used for additional disposal. Building removal would allow for approximately 17 months of additional disposal capacity for the Class II landfill if the Applicant elects to do so (Applicant also proposes to use this building for wet/dusty material blending prior to converting into the WRC). Added revenues may partially offset the increased costs of removing the Soil Remediation Building, relocating the Composting Sedimentation Basin, designing and constructing a new WRC building, and constructing the WRC at the Area A location.

4. Public Access Trail

A key recommended mitigation measure in Chapter 9, Biological Resources, is the elimination of the Phase 4 alignment of the Trail. The Phase 4 alignment would loop around WCCSL Area C. Because the levee around Area C has been breached to allow for tidal action, two pedestrian bridges would need to be constructed. Chapter 9 recommended Mitigation Measure 9-4(a) to eliminate Phase 4 because the levee provides important resting, roosting, and nesting habitat for birds. Human access associated with the Phase 4 alignment would greatly diminish and possibly eliminate the use of this area by many species. Thus, the PEA includes Phases 1, 2, and 3 of the Trail as described in Chapter 3.

5. Mitigation Measures

Recommended mitigation measures are discussed in Chapters 4 through 12 of this EIR and summarized in Chapter 2, Table 2-1. The measures are an important feature of the PEA because they mitigate with one exception, the significant adverse environmental impacts associated with the proposed Project. The PEA would have lower PM_{10} emissions than the proposed Project because of the reliance on the aerated static pile composting process in lieu of windrow composting. A significant unavoidable PM_{10} impact (Impact 10-2), however, would remain. The PEA would also be subject to the BAAQMD's New Source Review process

discussed in Mitigation Measure 10-2(a). During the BAAQMD permitting process, the PEA would be evaluated for application of Best Available Control Technology and emission offsets for reducing PM_{10} emissions to acceptable levels. In summary, the mitigation measures recommended in this EIR can be broadly categorized as new or supplementary additions in the following areas:

- Improvements in design, construction, and operation.
- Improvements in environmental control and monitoring systems.
- Refinement of design, operation, and environmental criteria based on demonstration activities or projects under regulatory agency overview.
- Further technical analysis under regulatory agency overview with incorporation of results into construction plans and specifications and into post-closure monitoring, maintenance and repair plans.

These mitigation measures should be made conditions of approval in the County and City use permits as applicable.