

**MITIGATION MONITORING AND REPORTING PROGRAM
POTRERO HILLS LANDFILL EXPANSION PROJECT**

Impact Description	Mitigation Measures	Timing	Responsibility for Implementing	Responsibility for Monitoring
LAND USE AND PLANNING				
4.1-3 Consistency with the Local Protection Program Policies Regarding Undergrounding Power Lines	Power lines installed on the project site shall be placed underground unless the project applicant can show that the underground installation would be so expensive as to preclude service, consistent with the requirements of Policy 1(c) of the Utilities, Facilities and Transportation section of the LPP. If power lines are constructed above ground, the wires shall be placed at least six feet apart.	If above ground installation is proposed, the project applicant shall provide justification prior to issuance of a building permit	Project Applicant	Solano County
BIOLOGICAL RESOURCES				
4.2-2 Effects on Vernal Pool Crustaceans	<p>If impact avoidance is feasible, a 250-foot buffer shall be established around the perimeter of wetlands that provide suitable habitat for vernal pool crustaceans. Suitable habitat and buffer areas shall be clearly identified in the field by staking or flagging, and no project activity shall occur within the marked areas.</p> <p>If complete avoidance of vernal pool crustacean habitat is not feasible, the project applicant and the U.S. Army Corps of Engineers shall initiate consultation with the USFWS under Section 7 of the Endangered Species Act. Mitigation for the loss of these species shall include the following:</p> <p>Aquatic Habitat: Offsite mitigation in a USFWS-approved mitigation bank or preserve area (e.g., North Suisun</p>	Prior to the initiation of ground-disturbing activities	Project Applicant	Solano County, California Department of Fish and Game, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers

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<p>4.2-5 Effects on California Tiger Salamander</p>	<p>Mitigation Bank proposed by Wildlands Inc. located north of Highway 12 and south of the Travis Air Force Base) shall occur at a ratio of 3:1 preservation of large pool/pond habitat areas and 1.5:1 construction/restoration of large pool/pond habitat areas; and 4:1 preservation and 2:1 construction/restoration in other high-quality sites.</p> <p>Buffer Zones: Buffer zones include the immediate natural contributing watershed to the individual pool/swale/pond plus a minimum of 100 feet from the watershed boundary. Development or loss of upland within contributing watershed/buffer areas will be mitigated through preservation of vernal pool habitat under the following formula:</p> <p><u>Effects to 50 percent or less of the buffer area</u></p> <p>Mitigation Area = (buffer impacted/total watershed) x (area of affected wetland habitat)</p> <p><u>Effects greater than 50 percent of the buffer area</u></p> <p>If greater than 50 percent of the watershed will be permanently affected, a 1:1 mitigation shall be required for the affected wetland.</p>			
	<p>Mitigation for tiger salamanders shall include four components that address impacts on the various life stages of this species. The first component mitigates impacts on terrestrial (aestivation) habitat on the project site; the second component mitigates impacts on the aquatic breeding and larval development habitats; the third component</p>	<p>Prior to the initiation of ground-disturbing activities</p>	<p>Project Applicant</p>	<p>Solano County and California Department of Fish and Game</p>

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	<p>compensates for impacts on terrestrial (aestivation) habitat for off-site pools whose watershed/terrestrial buffer would be affected by the proposed project; and the fourth component includes protection measures to minimize mortality of adults and larvae prior to and during construction, as well as during project operation. The project applicant shall develop a detailed plan for implementing these components; the plan shall be approved by the County, CDFG and USFWS prior to initiation of ground-disturbing activities.</p> <p>All mitigation sites for California tiger salamanders must be located within the known range of the California tiger salamander in southern Solano County (i.e., roughly between the Potrero Hills area and the Jepson Prairie area to the north).</p> <p>Component 1 – Terrestrial Habitat</p> <p>a. The project applicant shall preserve in perpetuity an off-site parcel as mitigation for impacts on the California tiger salamander and its terrestrial habitat. The entire expansion area encompassing 210 acres provides essential habitat for tiger salamanders; therefore, the minimum size of the mitigation parcel shall be 210 acres.</p> <p>Minimum criteria for off-site mitigation areas include the following:</p> <p>i. The site must be documented to support California tiger salamanders or be within 2,000</p>			

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	<p>fect of a known breeding pond.</p> <p>ii. If there is no breeding habitat onsite, there must be no impassable barrier between the mitigation site and the known breeding pond.</p> <p>iii. The known breeding pond must be on land that is preserved as open space in perpetuity and managed as native wildlife and plant habitat.</p> <p>All mitigation sites for California tiger salamanders must be located within the known range of the California tiger salamander in southern Solano County (i.e., the area roughly between the Potrero Hills area and the Jepson Prairie area on the north).</p> <p>Sites with high potential for enhancement and restoration through activities such as constructing breeding ponds and increasing the carrying capacity of the upland terrestrial habitat (e.g., eliminating ground squirrel control) will adequately mitigate impacts at a 1:1 ratio (210 acres).</p> <p>Sites with low potential for enhancement and restoration shall require larger ratios to mitigate impacts on tiger salamanders. The increased ratio will range from 1.5:1 to 3:1 and shall be determined by the County, CDFG and USFWS. Some characteristics of sites with low potential for enhancement and restoration may include sites</p>			

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	<p>greater than 2,000 feet but less than 3,000 feet from a known breeding pond, sites with a passable barrier to dispersal between the known breeding pond and the mitigation site, sites with minimal opportunities for creation of additional breeding ponds, and sites with permanent water bodies that support non-native predators such as exotic fish and bullfrogs.</p> <p>CDFG and USFWS must approve the proposed parcel as suitable habitat and acceptable for mitigation. The project applicant shall document the conditions on the site so that the appropriate mitigation ratio can be applied.</p> <p>b. A conservation easement shall be placed on the mitigation parcel or parcels, establishing the land as wildlife habitat in perpetuity. The conservation easement must be completed prior to the initiation of ground-disturbing activities on the proposed project site. A habitat management plan shall be developed for the mitigation area that stipulates allowable activities on the site (e.g., grazing) and details enhancements to be completed on the site to improve the breeding and terrestrial habitat for tiger salamanders. The habitat management plan shall be submitted to CDFG, USFWS and the County for approval. The project applicant shall provide a secure source of funding to ensure completion of the enhancement activities on the site and provide for the long-term maintenance of the site.</p>			

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	<p>Component 2 – Aquatic Breeding Habitat</p> <p>a. Pond 5 shall be avoided during landfill construction. Upstream of the pond (east side of the pond), the extent of the watershed shall be designated as a buffer zone. On the west side of the pond, a 300-foot buffer shall be established. Neither staging nor construction shall occur within the buffer zone, nor shall any ancillary facilities be located or constructed within the buffer zone for the life of the project. The existing dilapidated barn west of Pond 5 provides upland terrestrial habitat for tiger salamanders and shall be avoided (left in disrepair) during landfill expansion and operation. Although this pond will be preserved, impacts on the upland buffer around the pond shall be subject to the compensation terms described in Component 3 below.</p> <p>b. A minimum compensation ratio of 2:1 shall be applied to Ponds 1 and 4 (1.22 acres) that provide aquatic breeding habitat for California tiger salamanders. A minimum of 0.61acre of aquatic breeding habitat shall be preserved on the off-site mitigation site. An additional 0.61 acre of aquatic breeding habitat designed for tiger salamanders also shall be created on the off-site mitigation site. The combined acreage of Ponds 1 and 4 is 0.61 acre. Ponds 1 and 4 fall within the project footprint and will be removed during landfill development (the berm on Pond 4 was removed in 2000).</p>			

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	<p>c. All aquatic habitat either preserved or created must have a hydroperiod sufficient to allow completion of California tiger salamander metamorphosis during an average rainfall year. Ponds must hold water for at least 12 weeks during winter and early to mid-spring. This will require that the watershed of the mitigation site be appropriately sized, as determined through a study of the hydrology on the site, to support all mitigation ponds preserved or created on the mitigation site.</p> <p>Component 3 – Upland Buffers of Off-Site Ponds</p> <p>a. Compensatory mitigation for the permanent loss of terrestrial buffer/watershed habitat for off-site ponds whose terrestrial buffers/watersheds would be affected by the proposed project shall be mitigated in addition to direct losses, as described in Component 2 above.</p> <p>i. For purposes of this EIR, terrestrial buffer zones include the immediate natural contributing watershed to the individual pond or a 1,000-foot radius from the pond, whichever is larger.</p> <p>ii. Development or loss of terrestrial habitat within the terrestrial buffer/contributing watershed shall be mitigated through construction of aquatic breeding habitat. Mitigation acreage shall be determined under the following criteria:</p> <ul style="list-style-type: none"> - Effects to 50 percent or less of the buffer area - Mitigation Area = (buffer impacted/total 			

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	<p>watershed) x (area of affected wetland habitat)</p> <ul style="list-style-type: none"> - Effects to greater than 50 percent of the buffer area - If greater than 50 percent of the watershed would be permanently affected, 1:1 mitigation is required for the affected aquatic habitat. <p>For this project, the buffer zones for Ponds 2, 5, and 6 would be affected by the proposed landfill development. Applying the formula above, an additional 0.16 acre of aquatic breeding habitat shall be preserved on the off-site mitigation areas as compensation for impacts on the adjacent ponds and their terrestrial buffers used for aestivation. The total acreage of aquatic breeding habitat to be preserved and created at the mitigation site shall be 1.38 acres (1.22 acres for the loss of ponds on the project site plus 0.16 acre for impacts on the associated terrestrial buffer of adjacent off-site ponds).</p> <p>Component 4 – Protection Measures and Avoidance</p> <p>a. A salamander-proof barrier (e.g., fence or curb) shall be erected around the perimeter of the landfill expansion site to prevent salamanders from moving onto the expansion area during ground-disturbing activities and operation of the landfill. The barrier also would help direct the salamanders to areas where breeding ponds are preserved. The project applicant</p>			

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	<p>shall submit plans for a barrier design with their mitigation plan for approval by the County, USFWS and CDFG.</p> <p>b. Pond 1 and the Spring Branch Creek channel are located within the footprint of the expanded landfill and would be affected by landfill construction. To avoid potential impacts on larval salamanders in these aquatic features, all construction activities in and around Pond 1 and the Spring Branch Creek channel shall occur in late summer or early fall (August 1–October 15) when no standing is water present. Conducting activities at this time of year shall avoid mortality of larval salamanders that could be developing in the pond or creek. Construction activities at Pond 1 and Spring Branch Creek shall be completed prior to the onset of the first rain of the season. The pond and creek shall be backfilled with soil, or excavated and drained to prevent their use as a breeding habitat during the life of the landfill. Once the aquatic habitats have been filled or excavated, additional construction activities can proceed in the vicinity of Pond 1 or Spring Branch Creek at any time of year.</p> <p>c. A biological monitor shall conduct an employee training session for all operators and managers involved in ground clearing and landfill cell construction prior to the initiation of ground-disturbing activities. The purpose of the training is to</p>			

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	<p>inform the workers of the sensitive resources onsite, the resources that are being avoided, and the measures being implemented to avoid tiger salamanders and other sensitive resources. A biological monitor with appropriate permits from CDFG and USFWS shall be onsite during initial ground-disturbing activities to move or salvage and possibly relocate any adult salamanders unearthed during earth-moving activities. Once the initial ground-disturbing activities are completed, the monitor shall make periodic (monthly) checks of the site to document compliance with the protection measures. Monitoring visits shall continue through the first rainy season after the initial ground disturbance.</p> <p>d. The project applicant shall investigate the feasibility of moving adult tiger salamander from the expansion area to the mitigation area prior to ground-disturbing activities. The project applicant shall consult CDFG and USFWS regarding this activity.</p> <p>e. Ponds in the eastern valley survey area (Ponds 2, 6, and 7) shall be left intact and shall continue to provide breeding habitat for California tiger salamanders. Upland areas that provide terrestrial habitat also shall be left intact. No borrow areas or ancillary facilities shall be constructed outside the designated expansion area or within areas designated for avoidance.</p> <p>f. Ground squirrel control, if required, shall be limited to only the expansion area. No ground squirrel control</p>			

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<p>4.2-6 Effects on Burrowing Owl</p>	<p>by poisoning, trapping, shooting, or other methods shall be allowed outside the expansion area or within the buffer around Pond 5.</p> <p>Prior to construction activity, focused pre-construction surveys shall be conducted by the project applicant for burrowing owls where suitable habitat is present within 75 meters of the construction areas. Surveys will be conducted no less than 14 days and no more than 30 days prior to commencement of construction activities and surveys will be conducted in accordance with CDFG protocol (CDFG 1995).</p> <p>If no occupied burrows are found in the survey area, a letter report documenting survey methods and findings will be submitted to CDFG for review and approval, and no further mitigation will be necessary.</p> <p>If occupied burrows are found, disturbance to the burrows shall be avoided by providing a buffer of 50 meters during the non-breeding season (September 1 through January 31) or 75 meters during the breeding season (February 1 through August 31). In addition, a minimum of 6.5 acres of foraging habitat shall be preserved contiguous with each occupied burrow (CDFG 1995).</p> <p>If impacts to occupied burrows are unavoidable due to their location within the landfill footprint, onsite passive relocation techniques approved by CDFG shall be used to encourage owls to move to alternative burrows in the local vicinity that are outside of the impact area. However, no occupied burrows shall be disturbed during the nesting season unless a</p>	<p>Surveys shall be conducted no less than 14 days and no more than 30 days prior to commencement of construction activities. Passive relocation techniques shall be implemented as necessary and mitigation for foraging habitat shall occur prior to initiating ground-disturbing activities.</p>	<p>Project Applicant</p>	<p>Solano County and California Department of Fish and Game</p>

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4.2-7 Effects on Other Raptors	<p>qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Mitigation for foraging habitat for relocated pairs will follow guidelines provided in the California Burrowing Owl Consortium Guidelines (1993) which range from 6.5 to 19.5 acres or replacement habitat per pair.</p> <p>If project activity would commence during the raptor nesting season (February 15 to September 15), preconstruction surveys shall be conducted in areas of suitable nesting habitat within 500 feet of project activity. Surveys will be conducted no less than 14 days and no more than 30 days prior to commencement of project activity. If no active nests are found, no further mitigation will be required.</p> <p>If active nests are found, disturbance of the nest shall be avoided by establishment of a 500-foot exclusion buffer. No project activity shall occur within the buffer area until a qualified biologist confirms that the young have fledged from the nest or the adults abandon the nest on their own. Orange construction fencing shall be installed around the buffer area to prohibit access by site personnel and equipment. Weekly monitoring of the nest by a qualified biologist shall be conducted to determine when the young fledged. Daily monitoring will be required to document that a nest has been abandoned. Construction activities can commence once the young have fledged.</p>	Surveys shall be conducted no less than 14 days and no more than 30 days prior to commencement of project activity. If active nest are found, no activity shall occur until the young have fledged.	Project Applicant	Solano County
4.2-9 Effects on Sensitive	The project applicant shall create a minimum of 3.96 acres of seasonal wetlands (2:1 ratio) at a suitable off-site mitigation	Prior to the	Project	Solano County,

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<p>Habitats</p>	<p>site to compensate for the loss of seasonal wetlands on the site. In addition, a minimum of 0.88 acre of stream channel (2:1 ratio) shall be preserved and enhanced at an off-site location as mitigation for impacts on waters of the United States. The project applicant shall develop a mitigation and monitoring plan that details the mitigation design, wetland planting design, maintenance and monitoring requirements, reporting requirements, and success criteria for the off-site mitigation area and stream enhancement area. This plan shall be approved by the Corps, RWQCB, and CDFG prior to implementation. The mitigation and monitoring plan must be completed and approved, the off-site wetland creation and enhancement areas purchased, and wetland creation and enhancement activities must be initiated before wetlands on the project site can be disturbed.</p> <p>The project applicant shall create a minimum of 2.98 acres of waters of the State at an off-site location. This amount represents a 2:1 mitigation ratio for impacts on waters of the State. The applicant shall develop a mitigation and monitoring plan that details the mitigation design, wetland planting design, maintenance and monitoring requirements, reporting requirements, and success criteria for the off-site mitigation area. This plan shall be approved by RWQCB and CDFG prior to implementation. The mitigation and monitoring plan must be completed and approved, the off-site wetland creation area purchased, and wetland creation and enhancement activities must be initiated before wetlands on the project site can be disturbed.</p> <p>All wetland mitigation sites shall be located within southern</p>	<p>initiating ground-disturbing activities at the site.</p>	<p>Applicant</p>	<p>California Department of Fish and Game, U.S. Army Corps of Engineers, and Regional Water Quality Control Board</p>

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	<p>Solano County between Potrero Hills and Jepson Prairie. All created, preserved, and enhanced wetlands shall be monitored annually for a minimum term of 5 years, or as specified in the permits. Annual monitoring of each site shall include (a) observations of existing and developing problems and recommendations for remedial actions, (b) an assessment of creation of wetland habitats, (c) a formal wetland delineation in Year 5, (d) notation of invasive exotic species, and (e) photo-documentation. Monitoring visits shall be made in winter and spring of each year, and quantitative data shall be collected in spring. Annual reports shall be submitted each fall to the Corps and the County for review. At the end of the 5-year monitoring period, the Corps and the County shall review the reports and determine whether the success criteria have been met. If the success criteria have not been achieved at the end of the 5-year monitoring period, remedial measures shall be identified in consultation with the County, Corps, RWQCB, and CDFG.</p> <p>A conservation easement shall be established on the off-site mitigation areas to preserve these areas in perpetuity. The County or other public resource agency shall hold the easement to ensure retention of this land in perpetuity.</p> <p>The project applicant shall provide financial assurances of a type (i.e., bond, letter of credit) and amount to be determined by the permitting agencies and the County, to ensure successful implementation of the mitigation and monitoring plan. The bond (or other financial assurance) must be deposited with the appropriate permitting agency</p>			

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	<p>prior to initiating ground-disturbing activities on the project site. The applicant also shall provide a long-term funding mechanism for the maintenance of the wetlands in the conservation easements in perpetuity.</p> <p>As an alternative to creating and preserving wetland and waters, mitigation credits equal to 4.84 acres may be purchased in an approved bank within Solano County as mitigation for impacts on the seasonal wetlands and waters of the United States. Purchase of credits in a mitigation bank shall be subject to approval by permitting agencies and the County. The project applicant shall prepare a mitigation plan that provides detailed information about the bank. Mitigation credits must be verified by the permitting agencies and the County prior to initiation of ground-disturbing activities on the project site.</p>			
EARTH RESOURCES				
4.3-1 Faulting and Seismic Shaking	<p>The final design documents for the proposed landfill expansion shall be prepared pursuant to the requirements of CCR Title 27, Section 20370. These regulations require that the final design documents for the proposed landfill expansion demonstrate the ability of the landfill to withstand ground shaking associated with the Maximum Probable Earthquake (MPE) without damage to the foundations or to the structures which control leachate, surface drainage, erosion, or gas.</p> <p>In addition, the design recommendations included in the <i>1999 Geology and Geotechnical Engineering Evaluation (EMCON, May 1999)</i> for the site shall be implemented. These include</p>	Prior to issuance of the Solid Waste Facilities Permit and ongoing during site operations	Project Applicant	Local Enforcement Agency

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	<p>the following design elements.</p> <ul style="list-style-type: none"> ▶ During excavation of cut slopes, engineering geologic mapping shall be required to confirm the findings of the 1999 <i>Geology and Geotechnical Engineering Evaluation</i>. ▶ MSW slopes in the Pre-Subtitle D area shall not be constructed at angles greater than 3:1 with required benching at least every 100 feet. ▶ MSW slopes in the Subtitle D area shall not be constructed at angles greater than 4:1. ▶ Site specific geosynthetic materials and geomembrane-clay interface strengths shall be confirmed by testing prior to construction in the Subtitle D area. ▶ The cover system over the Subtitle D area shall be maintained by providing a minimum interface friction angle of 24 degrees above the geomembrane and an interface shear strength (adhesion) of 200 pounds per square foot between the geomembrane and low-permeability soil under low overburden pressures. The values shall be verified during the final design of the cover system. ▶ Preliminary dewatering of the saturated sandstone above the proposed base grades shall occur. ▶ In existing slide areas, the slide material shall be removed before cell development. ▶ Provisions shall be made to repair potential surficial slides in the temporary and permanent excavation slopes. This may require buttressing, reinforcing, or repairing the slopes. ▶ Surficial soils beneath composite-lined areas of the landfill shall be removed to minimize foundation settlements.. 			

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4.3-2 Slope Stability	<p>The final design documents for the proposed landfill expansion shall be prepared pursuant to the requirements of CCR Title 27, Section 21090. These regulations require that the integrity of the final slopes under both static and dynamic conditions be ensured. Section 21090 specifies maximum final slopes and minimum design requirements, and requires a slope or foundation stability report for final slopes that exceed a horizontal to vertical ratio of 3:1 for slopes in areas subject to liquefaction or unstable areas with poor foundation conditions.</p> <p>In addition, the design recommendations included in the <i>1999 Geology and Geotechnical Engineering Evaluation</i> (EMCON, May 1999) for the site shall be implemented. These design recommendations are identified in Mitigation Measure 4.3-1 above.</p>	Prior to issuance of the Solid Waste Facilities Permit	Project Applicant	Local Enforcement Agency
4.3-4 Erosion	<p>In order to minimize the potential for increased soil erosion on the site, the landfill expansion shall be designed in accordance with the drainage and erosion control requirements of CCR Title 27 §§20365, 20190, 21150, and 21750. CCR Title 27 requires engineered controls to limit erosion associated with facility operations. These controls typically include diversion of storm water runoff using temporary swales or interceptor ditches, retention of existing vegetation wherever possible, stabilization of barren soils with jute netting or geotextile fabric, installation of erosion-resistant layers, application of straw or mulch after seeding, installation of silt fences, berms, or hay bales to direct runoff away from construction areas, and visqueen sheets (plastic vapor barriers) or tarps to cover stockpiled soils.</p>	Prior to initiating landfill expansion activities and ongoing during site operations	Project Applicant	Solano County and Local Enforcement Agency

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	In addition, the project applicant shall implement Mitigation Measures 4.4-1 and 4.4-2 identified in Section 4.4, Hydrology and Water Quality of this report.			

HYDROLOGY AND WATER QUALITY

4.4-1 Increased Erosion Potential	Consistent with the requirements of CCR Title 27, Section 20365, the design of the site's surface water drainage system shall include the diversion and drainage controls necessary to intercept run-on and direct run-off, and to minimize erosion during construction and operation activities over the life of the project. This would include the implementation of Best Management Practices (BMPs) during cell construction to minimize soil erosion. These BMPs may include diversion of storm water runoff using temporary swales or interceptor ditches, retention of existing vegetation wherever possible, stabilization of barren soils with jute netting or geotextile fabric, application of straw or mulch after seeding, installation of silt fencing and berms or hay bales to direct runoff away from construction areas, and the provision of visqueen (plastic) sheets or tarps to cover stockpiled soils.	Prior to initiating landfill expansion activities and ongoing during site operations	Project Applicant	Solano County and Local Enforcement Agency
4.4-2 Surface Water Quality	The project applicant shall prepare a revised Surface Water Monitoring Program and a revised Erosion and Sedimentation Control Plan for the proposed expansion. In addition, the project applicant shall acquire an NPDES permit, to include a revised Storm Water Pollution Prevention Plan; a Waste Discharge Permit; and a revised Use Permit/Marsh Development Permit prior to initiating landfill expansion activities.	Prior to initiating landfill expansion activities	Project Applicant	Solano County and Local Enforcement Agency

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<p>PUBLIC SAFETY</p> <p>4.6-1 Public Health Hazards Associated with Expanded Landfill Gas Generation</p>	<p>The landfill gas monitoring and control program shall be expanded as the Phase I and II landfill mound expands, as required by CCR Title 27, Sections 20923 and 20937, in order to control landfill gas generation at the site.</p> <p>The existing structure monitoring program shall continue with implementation of the Phase II Project. The structure monitoring program shall identify enclosed spaces on, within, or adjacent to the landfill that will be required to be identified in a specific listing included in updates of the Joint Technical Document and the Landfill Closure Plan.</p> <p>Enclosed spaces include the equipment maintenance building, scalehouse, breakroom, and landfill office building. As the landfill is constructed sufficiently near these facilities, monitoring shall be implemented as part of the structure monitoring program.</p> <p>The design and operation of the power production facilities shall comply with applicable county building permit requirements and applicable fire code and industrial process equipment standards. In addition, the facility shall comply with BAAQMD permit requirements. The processing system and storage tanks shall be located a sufficient distance from the landfill gas flare to comply with applicable fire protection codes.</p>	<p>Prior to initiating landfill expansion activities and ongoing during site operations</p>	<p>Project Applicant</p>	<p>Local Enforcement Agency, Bay Area Air Quality Management District and Solano County</p>

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4.6-2 Public Health Hazards Associated with Expanded Composting	The project applicant shall comply with the state-mandated performance standards (CCR Title 14) regarding the operation of the expanded composting facility. These standards include regular turning of the compost windrows (twice weekly), minimizing the depth of the piles, and continually monitoring the water content and pile temperature.	Ongoing during site operations	Project Applicant	Local Enforcement Agency
4.6-3 Potential Attraction and Breeding of Vectors That Could Spread Disease	Consistent with CCR Title 27, Section 20810, the project applicant shall take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents or other vectors and to the minimize bird problems. In addition, the project applicant shall comply with any enforcement actions identified by the Local Enforcement Agency to control vectors, including implementing more frequent compaction of waste and installation of cover soils, as well as implementation of a licensed exterminator program. The project applicant shall also be required to coordinate with officials at Travis Air Force Base regarding effective bird control methods to be used at the site. This includes the continued use of bird deterrent and harassment techniques, such as the use of pyrotechnic scare devices, noise-scaring devices, and falcons to scare away gulls. An expanded bird control program shall be implemented if gulls become a nuisance, as determined through consultation with Travis Air Force Base staff and the LEA. If mosquitoes become a problem in the onsite sedimentation ponds, as determined by the LEA, the local mosquito abatement district shall be contacted to implement appropriate control measures.	Ongoing during site operations	Project Applicant	Local Enforcement Agency and Travis Air Force Base

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4.6-4 Potential Bird Strikes with Airplanes from Travis AFB	<p>The project applicant (PHLF) shall develop and implement a program for coordination among the applicant, the County Department of Resource Management and Travis Air Force Base (TAFB) to exchange information on conditions associated with the presence of ambient bird population associated with PHLF, and to identify the process for developing and implementing bird control strategies. The program will require each entity to assign a liaison and will identify a method of formal contact among the participating entities. Written records of discussions and coordination efforts shall be prepared and kept on file.</p> <ol style="list-style-type: none"> a. PHLF shall employ the services of a qualified individual to perform the duties of “Bird Coordinator” for the PHLF. b. PHLF shall develop a log that will be used to document current conditions associated with bird activity within and adjacent to PHLF. A preliminary document shall be prepared for review by the County Department of Resource Management and TAFB and will be finalized by PHLF pending input from these entities. The document shall include: <ul style="list-style-type: none"> • The project area (i.e., the boundaries of areas controlled by PHLF and TAFB) and its relationship to surrounding land uses. • Project area land uses that may attract birds or provide permanent and seasonal habitats. • General bird use characteristics of the project area. • Protocols for tracking bird species, behavior 	Ongoing during site operations	Project Applicant	Local Enforcement Agency, Department of Resource Management and Travis Air Force Base

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	<p>and occurrence within the project area.</p> <p>c. PHLF shall develop and implement a Bird Control Program (BCP) that includes supplemental measures to be implemented dependent upon ambient bird behavior observed and reported by the County Department of Resource Management, TAFB, or PHLF. At a minimum, the BCP shall include the following provisions:</p> <ul style="list-style-type: none"> • Maintenance of the landfill active face to smallest practical size. • Falconry services of a qualified firm or individual shall be obtained and compensated by the PHLF to implement the BCP. Falconry services shall be retained on the basis of BCP implementation requirements and may require full-time (40 hours/week) falconry services with overtime on an as needed basis. Falconry services may not be necessary on a year-round basis. • Any request to change or discontinue falconry services must be with the concurrence of Travis AFB and Solano County Department of Resource Management, after appropriate coordination, and only after a successful test and trial period agreed to in advance by both Travis AFB and Solano County Department of Resource Management. • Protocols for coordination among PHLF, the County Department of Resource 			

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	<p>Management, and TAFB to exchange information and conditions associated with the presence and nuisance of the ambient bird population associated with the PHLF and to identify the process for developing bird control strategies as may be necessary;</p> <ul style="list-style-type: none"> • Protocols for establishing an ongoing monitoring and reporting program for use in identifying bird use activities and pest behavior; • Protocols for developing and implementing strategies to address observed pest behavior; and • Protocols for monitoring and reporting the implementation and effectiveness of control strategies. Such protocols should include input from TAFB aircrews using methods agreed to and approved by the TAFB liaison. <p>d. PHLF shall develop and distribute quarterly reports assessing the effectiveness of the BCP. These reports shall include data and observations compiled for the quarter, as well as any concerns from TAFB that may have been identified and reported. The Bird Coordinator shall produce these quarterly reports with concurrence of TAFB and forward them to the County Department of Resource Management. At a minimum, these reports shall include:</p> <ul style="list-style-type: none"> • The adequacy of the adopted abatement measures; 			

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4.6-5 Expansion of Night Lighting	<ul style="list-style-type: none"> The appropriateness of the abatement measures; and The need for new, modified, or different mitigation measures. <p>If substantive issues or suggestions are identified in any of the quarterly reports or otherwise identified through meetings and discussions with TAFB and/or the County through the coordination protocols, PHLF staff shall conduct focused studies of these subjects and develop additional control strategies as necessary. These control strategies will be presented by the Bird Coordinator for consideration at a subsequent meeting with the County Department of Resource Management and TAFB. Any such additional control strategies shall be implemented as soon as practicable, pending concurrence by the County and TAFB.</p>			
4.6-7 Potential Human Exposure to Biosolids	<p>To ensure that the proposed increased nighttime lighting does not interfere with operations at Travis Air Force Base, lights used during nighttime landfill operations will be placed in an irregular pattern in order not to appear to be a runway. The project applicant shall notify Travis Air Force Base prior to any change in the way lighting is used for nighttime operations. In addition, only seven construction light plants will be used at the site. These would likely include four for the landfill active area, two in the composting area and one in the solidification mixing area.</p> <p>For biosolids composting operations, the project applicant shall comply with CCR Title 14, Division 7, Chapter 5, as enforced by the Local Enforcement Agency and the California Integrated Waste Management Board. This</p>	Notification shall occur prior to any changes in night lighting	Project Applicant	Solano County

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	<p>includes submitting a permit application under the California Integrated Waste Management Board's tiered permitting program and complying with all of the requirements of the permit. For the application of biosolids on the landfill slopes as soil amendment, the project applicant shall comply with EPA regulations identified under Standards for the Use or Disposal of Sewage Sludge (Title 40 Code of Federal Regulations [CFR] Part 503, known as the Part 503 regulations) and California State Water Resources Control Board General Order for General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities in California.</p>	<p>Permit for the site and ongoing during site operations</p>		<p>Integrated Waste Management Board</p>

AIR QUALITY

<p>4.9-1 Air Quality Impacts Associated with Expanded Landfill Operations</p>	<p>The following mitigation measures shall be implemented to minimize impacts associated with expanded landfill operations:</p> <ul style="list-style-type: none"> ▶ Enclose, cover, water twice daily or apply (non-toxic) chemical suppressants to exposed stockpiles (dirt, sand, etc.) ▶ Cover all trucks hauling loose materials or require all trucks to maintain at least two feet of freeboard. ▶ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads and parking areas. ▶ Sweep daily (with water sweepers) all paved access roads and parking areas. ▶ Sweep streets daily (with water sweepers) if visible loose 	<p>Prior to issuance of air permits for the site and ongoing during site operations</p>	<p>Project Applicant</p>	<p>Bay Area Air Quality Management District and Local Enforcement Agency</p>
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	<p>materials are carried onto adjacent public streets.</p> <ul style="list-style-type: none"> ▶ Limit traffic speeds on unpaved roads to 15 miles per hour. ▶ Install sandbags or other erosion control measures to prevent silt runoff to public roadways. ▶ Replant vegetation in disturbed areas as quickly as possible. ▶ All onsite unpaved roads shall be effectively stabilized for dust emissions using water or chemical stabilizer/suppressant. ▶ All land clearing, grubbing, scraping, excavation, land leveling, grading, and cut and fill activities shall be effectively controlled for fugitive dust emissions by utilizing application of water or by pre-soaking. ▶ All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets. ▶ Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized for fugitive dust emissions by utilizing sufficient water or chemical stabilizer. ▶ The excavator shall use either water or petroleum-based (or other equivalent performance) palliatives (approved for use by the BAAQMD) as a dust control measure. ▶ Suspend excavation and grading activity associated with site construction operations when winds exceed 20 mph. ▶ Limit area subject to excavation, grading, and other construction activity at any one time. ▶ When shredding or chipping of wood or concrete crushing is practiced at the site, the shredding and crushing units 			

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	<p>shall be equipped with water sprays to provide control of dust. The amount of water used shall be regulated and minimized to avoid runoff, ponding, or leaching of the wood materials.</p> <ul style="list-style-type: none"> ▶ Compost piles shall be water as necessary to maintain the necessary moisture content for composting to occur during the dry weather season and to minimize dust generation. If insufficient water is available on the site and the landfill operator does not wish to haul water to the site for composting operations, the operations shall be reduced or cease as appropriate until such time that adequate water is available. ▶ New sources of waste shall be evaluated for potential dust emissions. The specific waste handling protocols shall identify the type of dust control method that will be used. Examples include moistening the waste at the point of generation or placing the material in plastic bags. The case-specific protocols shall be reviewed with the LEA, RWQCB, and BAAQMD before finalizing. If the evaluation of the waste handling protocol indicates the potential for release of fugitive dust or volatile substances, the BAAQMD shall be contacted. If emission controls are anticipated for a new waste that is of substantial quantity and to be frequently delivered over a long time, an application for amendment of the site Air Permit shall be made, if deemed necessary by the BAAQMD. ▶ Comply with the requirements of the revised BAAQMD permit for the proposed composting operations, landfill gas power plant facility and the landfill gas collection and control system at the 			

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Impact Description	Mitigation Measures	Timing	Responsibility for Implementing	Responsibility for Monitoring
<p>4.9-4 Odors Generated From Landfill Operations</p>	<p>In addition, the project applicant shall comply with the requirements of a full Composting Facility Permit for the site including managing composting operations to minimize the generation of ROG emissions. This shall include monitoring the water content, pile temperature, and turning frequency in order to ensure that composting operations are effectively managed.</p> <p>In order to minimize odor generation at the adjacent residences, all composting operations at the site shall be relocated from the northern site boundaries to the center or southern portions of the site. Sludge processing and storage operations, and the mixing and storage of high-moisture content materials combined with dry powdery materials, shall also only occur in the center or southern portions of the site.</p> <p>In addition, the project applicant shall modify the Odor Impact Minimization Plan submitted to the Local Enforcement Agency in April 2003 to include odor control measures for the 24-hour operation of the working face, the application of biosolids on the landfill slopes as soil amendment and the use of seasonal sludge-drying ponds. Odor control measures for the working face could include increasing the frequency of cover application, as necessary to control objectionable odors. Odor control measures for the sludge handling processes would include the use of topical applicants as an odor neutralizer at the close of sludge spreading or borrowing operations. The topical applicant would consist of a potassium solution applied to wet sludge as a topical odor neutralizer.</p> <p>If sludge odor problems persist, receipt of incoming sludge</p>	<p>Restrictions on the location of composting and sludge operations shall be ongoing. The modifications to the Odor Impact Minimization Plan shall occur prior to issuance of the Solid Waste Facility Permit by the Local Enforcement Agency. Odor control measures and the odor</p>	<p>Project Applicant</p>	<p>Local Enforcement Agency and Department of Resource Management</p>

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Impact Description	Mitigation Measures	Timing	Responsibility for Implementing	Responsibility for Monitoring
	<p>shall be discontinued and the existing, onsite source of the odor shall be landfilled and covered with soil.</p> <p>The project applicant shall also implement the following odor complaint response protocol:</p> <p><u>COMPLAINT RESPONSE PROTOCOL</u></p> <ol style="list-style-type: none"> 1. Site receives complaint either verbally (phone call) or in written form. 2. During regular business hours (8:00 AM to 5:00 PM), the Solano County Resource Management Department will be notified as soon as an odor complaint is received at 707/421-6765. An investigation will be conducted and an Odor Complaint Report will follow within 24 hours of receipt of initial complaint. 3. After business hours, odor complaints will be forwarded as soon as they are received by landfill personnel to the Sheriff's Dispatch at (707) 421-7090. The phone call then will be routed to a Department of Resource Management staff member for disposition. 4. Odor complaints can also be logged in http://www.solanocounty.com/biosolids 5. As soon as practicable, Solano County Department of Resource Management personnel will visit the complainant site to verify the nuisance nature of the complaint and determine if it is a short term, long term, or consistent problem. 6. Odor complaints investigation will be conducted as 	<p>complaint response protocol shall be implemented on an ongoing basis.</p>		

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	<p>follows:</p> <ul style="list-style-type: none"> a. Determine if odor is detectable by site personnel at off site complaint location. If not detectable, complete investigation by submitting Odor Complaint Report to Solano County Resource Management Department within 24 hours of receiving the complaint. b. If detectable at the complainant's site or off-site, determine the source. c. Determine if source and nature of odor is short term or long term duration. d. If short term, abate the source of odors and complete investigation by submitting Odor Complaint Report to Solano County Department of Resource Management within 24 hours of receiving the complaint. Continue to monitor and abate off-site odors. e. If odors reoccur and become a long-term consistent problem, determine extent and nature of off site odors. If odor source is related to weather or operations, abate the problem by taking appropriate adjustments to storage, process control, and facility improvements will be made to resolve the problem. Submit Odor Complaint Report to Solano County Department of Resource Management within 24 hours of receiving the complaint outlining the odor source and 			

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	<p>steps being taken to abate the odors. Continue to monitor and abate off-site odors.</p> <p>7. If odors reoccur and become a long-term consistent problem, as determined by Solano County LEA personnel, an odor abatement system will be employed. The system would consist of the use of topical applicants as an odor neutralizer during sludge spreading or barrowing operations. The topical applicant would consist of a potassium permanganate solution applied to wet sludge as topical odor neutralizer.</p> <p>8. If odor problems persist after the implementation of those above odor control measures, the LEA may request that the receipt of the incoming sludge be discontinued and the existing, on-site source of the odor is land filled and covered with soil. Upon odor remediation, the site may resume sludge receipt and drying operations.</p> <p><u>RESPONSE TO CITIZEN COMPLAINTS</u></p> <ol style="list-style-type: none"> 1. Site receives complaint either verbally (phone call) or in written form. 2. During regular business hours (8:00 AM to 5:00 PM), odor complaints will be forwarded to the Solano County Department of Resource Management as soon as they are received at 707/421-6765. The submittal will note that an investigation will be conducted and an Odor Complaint Report will follow within 24 hours of receipt of initial complaint. 			

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	<ol style="list-style-type: none"> 3. After business hours, odor complaints will be forwarded as soon as they are received by landfill personnel to the Sheriff's Dispatch at (707) 421-7090. The phone call then will be routed to a Department of Resource Management staff member for disposition. 4. Odor complaints can also be logged in http://www.solanocounty.com/biosolids 5. As soon as practicable, Solano County Department of Resource Management personnel will visit the complainant site to verify the nuisance nature of the complaint and determine if it is a short term, long term, or consistent problem. 6. Odor complaints and odor investigation will be conducted as follows: <ol style="list-style-type: none"> a. Determine if odor is detectable by site personnel at complaint location. If not detectable, or is only detectable on site, complete investigation by submitting Odor Complaint Report to Solano County Department of Resource Management within 24 hours of receiving the complaint. b. If detectable at the complainant's site or off-site, determine the source c. Determine if source and nature of odor is short term or long term duration. d. If short term, abate the source of odors and complete investigation by submitting Odor 			

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	<p>Complaint Report to Solano County Department of Resource Management within 24 hours of receiving the complaint. Continue to monitor and abate off-site odors.</p> <p>e. If long term, determine extent and nature of off site odors. If odor source is related to weather or operations abate the problem by taking appropriate adjustments to storage, process control, and facility improvements will be made to resolve the problem. Submit Odor Complaint Report to Solano County Department of Resource Management within 24 hours of receiving the complaint outlining the odor source and steps being taken to abate the odors.</p> <p>7. If odor problems persist after implementation of listed control measures and exhaustion of other feasible control measures, the LEA may request that the acceptance of the odor source be discontinued and the existing, on-site sources of odor be land filled, covered with soil, mixed with woodchips or sawdust, or otherwise mitigated. Upon odor remediation, the site may resume normal operations.</p>			

VISUAL RESOURCES

4.10-1 Altered Views from the North and Northwest	In order to shield the active landfill working face from off the project site, a soil-covered berm shall be constructed on the northwestern and northern edge of the active working face prior to filling areas visible from residential areas to the	Ongoing once the working face is visible from areas to	Project Applicant	Solano County
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	northwest and SR 12 to the north. The berm shall be of sufficient height and length (approximately 10 feet in height and 50 feet in length) to ensure that the active working face is not visible from residential areas to the northwest or SR12 to the north.	the northwest and/or SR 12 to the north		
4.10-2 Expansion of Night Lighting	To ensure that the proposed increased nighttime lighting does not cause adverse glare for residents, lights used during nighttime landfill operations will not be colored, and will be shielded and directed downward to reduce glare. In addition, only seven construction light plants will be used at the site. These would likely include four for the landfill active area, two in the composting area and one in the solidification mixing area.	Ongoing during nighttime operations	Project Applicant	Solano County
4.10-3 Visual Changes Associated with the Construction of Ancillary Facilities	In order to minimize the visual impacts associated with the installation of four metal water storage tanks along the peak of the northern ridgeline, an earthen berm shall be constructed along the northern edge of the water tanks when they are installed. The berm shall be of sufficient height and length to ensure that the water tanks are not visible from SR12. The berm shall be vegetated with non-native grasses to ensure that it visually blends with the surrounding vegetation.	Prior to installation of water tanks along the northern ridgeline.	Project Applicant	Solano County
4.10-4 Increased Litter Generation	The project applicant shall update its current litter control program to ensure compliance with CCR Title 27, Section 20830. The updated program shall take into account the anticipated increase in waste and composting receipts and shall indicate how litter will be controlled at the recyclables handling area and public unloading area. Measures may	Prior to Solid Waste Facility Permit issuance by the Local Enforcement	Project Applicant	Local Enforcement Agency

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	<p>include, but are not limited to, the following:</p> <ul style="list-style-type: none"> ▶ use of additional portable litter fencing and increasing the height of the existing fencing at the landfill's working face and around the recyclables handling area, and ▶ increasing the staff of the daily cleanup crew to adequately collect both on- and off-site litter. <p>The updated litter control plan shall be submitted to the LEA for approval prior to project implementation.</p>	Agency		

CULTURAL RESOURCES

<p>4.11-1 Disturbance of Unidentified Cultural Resources</p>	<p>The project applicant shall implement the following measures for cultural resources discovered during project implementation activities.</p> <ul style="list-style-type: none"> ▶ In the event that cultural or paleontological resources are encountered during project construction, all earth-moving activity in the specific construction area shall cease until the applicant retains the services of a qualified archaeologist or paleontologist. The archaeologist or paleontologist shall examine the findings, assess their significance, and offer recommendations for procedures deemed appropriate to either further investigate or mitigate adverse impacts on those cultural or paleontological archaeological resources that have been encountered (e.g., excavate the significant resource). ▶ If human bone or bone of unknown origin is found during project construction, all work shall stop in the vicinity of the find and the County Coroner shall be contacted immediately. If the remains are determined to be Native American, the Coroner shall notify the Native American 	<p>During any native soil disturbance on the site associated with project implementation</p>	Project Applicant	Solano County
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	<p>Heritage Commission. The Native American Heritage Commission shall notify the person considered to be the most likely descendant. The most likely descendant will work with the project applicant to develop a program for the re-interment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been completed.</p> <ul style="list-style-type: none"> ▶ Project personnel shall not collect or retain artifacts found at the site. Prehistoric resources may include, but would not be limited to, chert or obsidian flakes; projectile points; mortars and pestles; and dark friable soils containing shell and bone, dietary debris, scorched rock, or human remains. Historic resources may include, but would not be limited to, stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits, including those in old wells and privies. 			