

A P P E N D I X C

**BIOLOGICAL RESOURCES SURVEY
FOR THE NURSERY PRODUCTS
HAWES COMPOSTING FACILITY,
SAN BERNARDINO COUNTY,
CALIFORNIA**

Prepared for

County of San Bernardino
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EXECUTIVE SUMMARY

Nursery Products LLC is proposing to develop a biosolids/green waste composting facility on an approximately 160 acre parcel located south of Highway 58, 12.3 miles east of Kramer Junction and 22 miles west of Barstow (see Figures 1 and 2). The facility would be used to produce agricultural grade compost in an environmentally sound manner from County's waste water treatment plant and green material products. An office (up to 720 square feet), parking, scale, composting windrows, screening area, equipment/finished product storage area, and a 2,000 gallon (7-feet x 15-feet) above ground fuel tank would occupy the site. Limited signage is proposed.

In compliance with CEQA, a biological resources assessment of the project area was undertaken by the County of San Bernardino Land Use Services Department (SBLUD) consultant, URS Corporation (URS). The biological resources assessment included a database review of the California Natural Diversity Database (CNDDDB) and U.S. Fish and Wildlife Service (USFWS) to identify previous biological resource locations in the project vicinity. Based on the results of the database review, URS biologists visited the site on several occasions to conduct vegetation mapping, and protocol and focused surveys for the special-status species identified within the vicinity of the project site [desert tortoise (*Gopherus agassizi*), Barstow woolly sunflower (*Eriophyllum mohavense*), and Mohave ground squirrel (*Spermophilus mohavensis*)].

The project site is relatively undisturbed, low-elevation desert comprised of Desert Saltbush Scrub vegetation. The only visible disturbances to the area surrounding the project site are three mining pits located just north of the project boundary and an old hitching post located within the boundaries of the property.

SECTION 1 INTRODUCTION

This Biological Resources Technical Report has been prepared as a component of an Initial Study (IS) and EIR for the proposed development of a biosolids/green waste composting facility. The purpose of this biological resource technical study is to inventory and assess the possible significance of biological resources that the proposed project could affect. This report details the results of special-status species protocol and general wildlife surveys, rare plant surveys and vegetation mapping conducted on the project site.

1.1 PROJECT DESCRIPTION

The proposed project is the development of a biosolids/green waste composting facility on a privately-owned 160-acre parcel located in the unincorporated area of the County of San Bernardino (County), south of State Route 58, eight miles west of the community of Hinkley (Figures 1 and 2). The facility would be known as the Nursery Products Hawes Composting Facility (Project), and would produce agricultural grade compost from San Bernardino County's waste water treatment plant and green waste products.

Intended usages of the proposed project site include an office space up to approximately 720 square feet in size, parking, truck scale, composting windrows, screening area, equipment / finished product storage area and a 2,000-gallon double-walled, above-ground diesel fuel tank. Limited signage is proposed. The facility is expected to operate 7 days a week, 24 hours a day with 8 employees. The facility will process approximately 400,000 tons per year of compostable material. The total amount of "active" compost is not expected to exceed 250,000 tons. The facility will be able to store approximately 350,000 tons of composted finished product. Given landscaping and agricultural demand and use of the finished product, storage is expected to peak during the winter months (mid-November until late February).

Equipment that would be used during the composting process includes a front-end loader, tub grinder, windrow turner, and screens.

Small storage sheds will be placed on-site. One of these storage sheds will be used for hand tools and basic supplies. A second storage shed will be used for solar panel equipment. The solar panels will be used as the basic energy source for the office trailer and ancillary power needs. Trash and non-recoverable or non-marketable residues will be placed in an enclosed trash receptacle for transport and disposal at a permitted solid waste landfill.

During daily operations, the facility will receive a daily average of 1,100 tons of compostable material (biosolids and green waste) delivered to the site via truck, with a maximum daily quantity of 2000 tons. Typically, biosolids and green waste will be delivered to the site and dumped directly on the 'composting pad'. A front-end loader will mix the material together and form it into a windrow. The windrow will be approximately eight to twelve feet in height and approximately fifteen-feet wide, and settling will reduce the height to approximately six to eight feet. After the composting process (typically 60 days), each windrow will be screened to remove wood pieces that are too large for typical finished product use. The finished product will be transported by truck to agricultural and other users.

Figure 1
Site Location Map: Nursery Products Composting Site

Figure 2
Vicinity Map: Nursery Products Composting Site

SECTION 2 ENVIRONMENTAL SETTING**2.1 PROJECT SETTING**

The project area is located in the Mojave Desert in gently rolling open terrain dominated by desert scrub vegetation. The Mojave Desert is the driest desert in the continental United States with precipitation ranging from 2.23 to 2.5 inches a year, with much of the rain falling between October and March, and temperatures ranging from 40 to 110 °F. Perennial and intermittent rivers and streams are rare, and most water flow occurs in washes and flood-flow paths during major winter rain events that occur rarely. Habitats in this region of the Mojave Desert vary with the landscape and precipitation levels and include pinyon-pine forests and frost-tolerant species above 5,500 feet (1675 m); Joshua-tree woodlands in the 4,000 to 6,000 feet (1220 to 1828 m) range; mixed desert shrub communities in the middle elevation regions and along the mountain range fronts, and creosote bush and other drought-tolerant species in the lower-elevation regions where rainfall average is less than 2 inches (5 cm) per year (USGS 2004). The habitat in and surrounding the project site is comprised of desert saltbush scrub, with elevations between 2310 to 2340 feet above mean sea level. With the exception of the existing dirt road that leads to the project site from Helendale Road, old mining pits north of the site and an abandoned building or bunker located approximately ½ mile west of the site, the project site and vicinity is undisturbed.

The Project is located within an area designated by BLM as Category I desert tortoise critical habitat, which is considered to be most suitable for tortoise occupation and use (BLM 2001). There are a total of four categories; I, II, III and no habitat.

The Project is also located within the planning area of the proposed West Mojave Coordinated Management Plan (West Mojave Plan or WMP). The proposed WMP designates a total of four Desert Wildlife Management Areas (DWMA) that focus on the protection and conservation of desert tortoise, Mohave ground squirrel and other state-or federal sensitive species that share their habitats, and the project site is located within the boundaries of the Fremont-Kramer DWMA and Area of Critical Environmental Concern (ACEC) (Figure 4).

Special-status species in the project vicinity include desert tortoise, Mohave ground squirrel, and Barstow woolly sunflower, which have been previously documented in the vicinity of the property.

SECTION 3 FIELD SURVEY METHODS AND RESULTS

3.1 FIELD SURVEY METHODOLOGY

On January 31, 2006, URS biologists conducted a habitat assessment to characterize the vegetation at the project site and determine the suitability of the habitat for the desert tortoise (federally-listed as threatened), Mohave ground squirrel (CA state-listed as endangered) and Barstow woolly sunflower (federal species of concern, BLM sensitive, CNPS List 1B). At this time it was determined that USFWS-protocol presence-or-absence surveys for desert tortoise would be necessary, based on the presence of storke's bill (*Erodium* spp.), an important forage species for desert tortoise that was present throughout the property, and the location of the property within BLM Category I desert tortoise habitat.

On April 11 and 12, 2006, URS biologists conducted USFWS protocol presence-or-absence surveys for desert tortoise, with concurrent surveys for Mohave ground squirrel and Barstow woolly sunflower. CDFG-protocol trapping surveys for Mohave ground squirrel were not conducted at this time. During the protocol desert tortoise surveys, the entire site was surveyed at 100 percent coverage in 30-foot wide transects. Zone of Influence surveys were also conducted at 100, 300, 600, 1200, and 2400-foot intervals from and parallel to the project boundaries (Figure 2). (The Zone of Influence is defined by the USFWS as the area where tortoises on adjacent lands may be directly or indirectly affected by project exploration, construction, maintenance, operation, monitoring, dismantlement, enhancement, and project abandonment that may extend to approximately 2400 feet from the project boundaries). All tortoise sign, including live tortoises, carapaces, scutes, bones, scats, burrows, and tracks were mapped and recorded with handheld GPS units. Photographs of the identified sign and the surrounding habitat were taken, and survey forms were completed for each transect that contained desert tortoise sign. Incidental observations of all wildlife species and sign were also recorded during the visits.

On May 4, 2006, URS botanists conducted a follow-up rare plant survey of the project site. This survey was conducted to increase the chances of finding a late-blooming species. Additional late season rains occurred between the end of April and within the first week of May, 2006, which may have increased chances of locating such rare plants as the Barstow wooley sunflower.

During all of the URS biological surveys, the property was surveyed on foot, and all areas were visible from the survey routes. Animals were identified using scat, tracks, burrows, vocalizations, or direct observations with the aid of 8 x 42 power binoculars. Biological resources were mapped in the field with the aid of a handheld GPS unit (5 meter accuracy) and plotted on a 1-inch = 200 feet rectified 2002 aerial photograph.

Table 1
Nursery Products Site Survey Details

Date	Wildlife Survey	Vegetation Survey
January 31, 2006	Desert tortoise and Mohave ground squirrel habitat assessment	Site assessment and vegetation mapping
April 11 and 12, 2006	Protocol presence-or-absence surveys for desert tortoise	Rare plant surveys
May 4, 2006	General wildlife observations	Rare plant follow-up survey

3.2 FIELD SURVEY RESULTS

3.2.1 Vegetation

The project site is located in gently rolling, open desert scrub with two non-jurisdictional swales passing through the middle of the site. Vegetation is comprised of a single vegetation community, Desert Saltbush Scrub. Desert Saltbush Scrub (Holland Code 36110) consists of typically level areas of low-growing, grayish, microphyllous shrubs up to a meter in height, with some succulent species and low-growing annuals. This type of scrub is usually dominated by a single *Atriplex* species and very few other shrubs. The saltbush scrub on the project site is dominated by *Atriplex polycarpa*, with sparse creosote (*Larrea tridentata*), and occasional cotton-thorn (*Tetradymia spinosa*). The herbaceous understory includes Mediterranean schizmus (*Schizmus barbatus*), Storke's bill (*Erodium* spp.), and desert herb (*Chorizanthe rigida*). Cryptogamic crusts were interspersed between shrubs throughout the site. No rare plants were detected on the project site.

Several individuals of Mojave fishhook cactus (*Sclerocactus polyancistrus*) were located throughout the site. Other cactus species onsite include cholla (*Cylindropuntia echinocarpa* and *Cylindropuntia ramosissima*).

3.2.2 Wildlife and Sensitive Species Habitats

The project site supports a diversity of common desert wildlife. Bird species that were detected included common raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), white-crowned sparrow (*Zonotrichia leucophrys*), sage sparrow (*Amphispiza belli*, CSSC), California horned lark (*Eremophila alpestris actia*; CA Species of Special Concern [CSSC]), northern harrier (*Circus cyaneus*, CSSC), and red-tailed hawk (*Buteo jamaicensis*).

Mammals that were observed or indirectly detected from scat or tracks included black-tailed jackrabbit (*Lepus californicus*), kit fox (*Vulpes macrotis arsipus*), coyote (*Canis latrans*) and white-tailed antelope squirrel (*Ammospermophilus leucurus*); rodent tracks and burrows were commonly observed throughout the site.

Reptiles that were observed included Desert Tortoise (*Gopherus agassizi*, [SE/FE]), Mojave green rattlesnake (*Crotalus scutulatus*), zebra-tailed lizard (*Callisaurus draconoides*) and desert horned lizard (*Phrynosoma platyrhinos calidiarum*).

3.2.3 Special-Status Species

A total of three special-status species were identified during the surveys, one federal-and state-listed species and three CA Species Special of Concern; desert tortoise, northern harrier, sage sparrow, and California horned lark. While the desert tortoise is federal and state listed as threatened, the northern harrier, sage sparrow and California horned lark are California Species of Special Concern, with no federal status.

Sign of desert tortoise was detected throughout the project site, including inactive burrows, carapace remains, and dried and fresh tortoise scat. Two live desert tortoises and their burrows were detected within 600 feet of the southeastern property boundary during the Zone of Influence survey (Figure 2).

Mohave ground squirrel were not detected during a total of 4.5 spring season survey days, although white-tailed antelope squirrel, a similar species, were commonly detected. Because the Mohave ground squirrel is a diurnal species and because an ecologically similar species was observed utilizing the site, it is assumed that the Mohave ground squirrel is not present onsite. The closest documented location of Mohave ground squirrel is greater than 5 miles from the project site, which precludes the requirement for protocol surveys for this species.

The following species accounts are provided for the three special-status species detected during the focused surveys, as well as for those special-status species that are reported within the vicinity but not detected during the 2006 surveys (Mohave ground squirrel and Barstow woolly sunflower).

3.2.4 Species Accounts

Desert Tortoise (*Gopherus agassizi*)

USFWS: Threatened; BLM: Sensitive; CDFG: Threatened

Desert tortoise is widely distributed in the deserts of California, southern Nevada, extreme southwestern Utah, western and southern Arizona, and throughout most of Sonora, Mexico. Desert tortoise populations are rapidly declining in numbers due to various factors including the spread of a fatal respiratory disease, increases in raven populations that prey on juvenile tortoises, and habitat destruction in the form of off-road vehicle use and development. Only the Mojave population is federally- and State-listed as threatened. Habitat consists of firm but not hard ground, usually soft sandy loams and loamy sands to allow for burrow construction (Karl 1983). The Mojave desert tortoise mostly occur in four regions in the Mojave (Ord-Rodman, Superior-Cronese, Fremont-Kramer, and Joshua Tree) and outside these areas in generally lower densities. This species is mostly found in creosote bush scrub, with lower densities occurring in Joshua tree woodland and saltbush scrub, in flats, valleys, bajadas, and rolling hills between 2,000 and 3,300 feet and occasionally above 4,100 feet. The diet of this species mainly consists of annual plants, but also perennial plants such as cacti and grasses; native forbs when available, also eats non-native plant species (West Mojave Planning Team 1999).

Desert tortoise is most active when plants are available for forage or when pooled water is available for drinking, usually March through early June and again between September and early November (Marlow 1979). They typically have home ranges from 11-53 ha (1ha = 10,000 square meters (Berry 1986). Individuals commonly traverse 450-800m/day within their home range, and males have been recorded to travel 1 km within their home range. Mojave desert tortoise are also known to disperse extended distances (3.1 km in 16 days and 7.2 km in 15 months; Berry 1986). Desert tortoise sign was detected throughout the project site and 2 live tortoise and burrows were detected in the Zone of Influence within 600 feet of the southeastern project boundary.

Mohave Ground Squirrel (*Spermophilus mohavensis*)

USFWS: None; BLM: Sensitive; CDFG: Threatened

The Mohave ground squirrel ranges from Palmdale (southwest), to Lucerne Valley (southeast), to Coso Range (northwest), and to the Avawatz Mountains (northeast). Substantial populations occur in Indian Wells Valley, Kramer Hills, Edwards AFB, China Lake NAWS, southern Sierra Nevada canyons, and portions of Fort Irwin NTC. Habitats dominated by creosote bush and burrobush in flat to moderate terrain are preferred. Associated species include winterfat, Anderson's boxthorn, cheesebush, desert goldenhead, and Cooper's goldenbush. Joshua tree is often a component as well. In saltbush scrub, dominants include four winged saltbush, allscale, spiny saltbush, or shadscale. This species receives protection from the CDFG, and a petition has been filed with USFWS to federally list the species; however, the USFWS has not initiated consultation on this species at this time.

Dormancy for this species occurs during the summer or in severe drought months, usually beginning in July or September but may begin as early as April or May during drought years. The Mohave ground squirrel emerges from dormancy as early as January, but more typically in mid-February or March. Males emerge ahead of females and establish territories. Diet consists of leaves and seeds of plants, with extensive use of perennial plants if annuals are not available. Forage species include spiny hopsage, winterfat, and saltbush. Insects also constitute a small but regular part of the diet. Mohave ground squirrel was not detected on the project site during the April 2006 surveys.

Barstow Woolly Sunflower (*Eriophyllum mohavense*)

USFWS: Sensitive; BLM: Species of Special Concern; CDFG: None; CNPS List 1B

This plant species is endemic to California, restricted to the western Mojave Desert from Barstow in the east to Edwards Air Force Base to the west, and north to Black Mountain north of Harper Lake. Occurrence records of the Barstow woolly sunflower include two sites near Barstow, 15 sites between Barstow and Kramer Junction, one site west of Lane Mountain and four sites on Edwards Air Force Base. Barstow woolly sunflower occurs between 2,500 to 3,6000 feet and is limited to deflation basins with a hard pan layer near the surface, cryptogamic crust, and a low slope angle. High levels of boron have been documented in soils occupied by this species. The habitat varies from open spiny saltbush scrub in the south to creosote scrub/Joshua Tree woodland to the north. Associated species include spiny saltbush, goldfields, peppergrass, *Schismus barbatus*, pincushion flower, and Mojave spineflower (West Mojave Planning Team 1999). This species was not detected during the April 2006 surveys of the project site.

California Horned Lark (*Eremophila alpestris actia*)**USFWS: None; BLM: None; CDFG: Species of Special Concern**

This species is generally uncommon and with patchy distribution, and occurs in deserts, grasslands, and possibly any open flat area. Horned larks are known to colonize areas graded for development, disappearing when construction begins. Nests are placed on the ground, and nesting occurs in April with fledglings arriving May – July. California horned lark was observed throughout the project site during the April 2006 surveys.

Northern Harrier (*Circus cyaneus*)**USFWS: Migratory Bird Treaty Act; BLM: None; CDFG: Species of Special Concern**

The northern harrier is distributed throughout North America and Eurasia (Johnsgard 1990). Northern harriers breed from northern Alaska and Canada, south into roughly the northern two-thirds of the western United States, and the northern one-third of the eastern United States. Wintering harriers utilize the southern portion of the breeding range and extend farther south into Central America. This species responds to local prey abundance and can therefore be spatially unpredictable. Reproduction is similarly flexible, with no long term pair bonds and little site fidelity between years. Harriers have declined in California in recent decades but can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture (Zeiner et al. 1990). Northern harrier was observed on the project site during the April 2006 surveys.

Bell's Sage Sparrow (*Amphispiza belli*)**USFWS: None; BLM:None; CDFG: Species of Special Concern**

The sage sparrow is a common but inconspicuous bird of sagebrush and chaparral in the arid western United States. The subspecies *belli* is a species of special concern in California. Sage sparrow can be found in chaparral, sage scrub and low desert scrub of saltbush, bitterbrush, big sagebrush and shadscale, and generally prefers semi-open habitats with evenly spaced shrubs 1-2 m high (Chase and Carlson 2002) foraging mainly on the ground among shrubs. They nest in low dense shrubs and form small feeding flocks during the non-breeding season. Sage sparrow is believed to migrate southward in winter from northern portions of its range, and moves down-slope into deserts in winter in southern CA.

3.2.5 Potential Waters of the United States/State Jurisdictional Waters

The National Resources Conservation Service places the Project site within a no flooding class, and the FEMA Flood Insurance Rate Maps (FIRM), locate the site within Zone D, which is defined as an 'Undetermined but possible flooding' zone. During the site survey and habitat assessment, two flow routes were observed bisecting the site. Examination of the flow routes revealed that they lack ordinary high water marks, well-defined bed and banks, and wetland vegetation as defined by Cowardin.

Non-wetland waters of the U.S. that would be under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) are delineated based on the presence of an ordinary high water mark (OHWM) as defined at 33 CFR 328.3(e). The OHWM is defined therein as:

The term “ordinary high water mark” means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Because the site is tributary to the Mojave River, which is an intra-state watershed, there would be no ACOE jurisdiction. However, the flow routes may be considered Waters of the State under Section 1600 of the California Fish and Game Code.

Section 1601(a) describes areas subject to its jurisdiction within the following text:

Except as provided in this section, general plans sufficient to indicate the nature of a project for construction by, or on behalf of, any state or local governmental agency or any public utility shall be submitted to the department if the project will (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use material from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake designated by the department. ...

Section 1601(a) is based on Title 14 CCR 720, which designates waters of the California Department of Fish and Game to be:

For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed of any river, stream or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which may have intermittent flows of water, are hereby designated for such purpose.

URS understands that these State regulations define the jurisdiction of the California Department of Fish and Game (CDFG) for the purpose of administering Section 1600 of the Fish and Game Code as within the bed, bank, and channel of stream, including intermittent streams, which are equivalent to the areas within the OHWM of a stream. URS also understands that the California Department of Fish and Game routinely asserts jurisdiction on areas demonstrating a minimum of one of three parameters: 1) a dominance of hydrophytic vegetation, 2) hydric soils, or 3) wetland hydrology.

The Project site is bisected in two areas by apparent flood flow paths that likely flow eventually into the Mojave River, which is located approximately 12 miles south of the Project site. Based on biological surveys conducted by URS biologists in January and April, 2006, the flow paths on the site lack an ordinary high water mark, well defined cut channels or wetland vegetation. Additionally, the site is within a 500-year floodplain, which suggests that only rare flood flows pass through the site (Appendix A, Photographs 6 through 12).

SECTION 4 IMPACTS

4.1 SIGNIFICANT CRITERIA

The California Environmental Quality Act (CEQA) Guidelines define “significant effect on the environment” as a “substantial or potentially substantial adverse change in the environment.” The CEQA Guidelines further indicate that there may be a significant effect on biological resources if the project will:

- Cause a fish or wildlife population to drop below self-sustaining levels (CEQA Guidelines, Section 15065 (a))
- Threaten to eliminate a plant or animal community (CEQA Guidelines, Section 15065 (a))
- Substantially affect, reduce the number, or restrict the range of unique, rare, or endangered species of animal or plant, or the habitat of the species (CEQA Guidelines, Section 15065 (a), Appendix G (c), Appendix I (II.4.b) and (II.5.b))
- Substantially diminish or reduce habitat for fish, wildlife, or plants (CEQA Guidelines, Section 15065 (a), Appendix G (t))
- Interfere substantially with the movement of resident or migratory fish or wildlife species (CEQA Guidelines, Appendix G (d))
- Change the diversity of species, or number of any species of plants (including trees, shrubs, grass crops, and aquatic plants) or animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, or insects) (CEQA Guidelines, Appendix I (II.4.1) and (II.5.a))
- Introduce new species of plants or animals into an area, or act as a barrier to the normal replenishment of existing species (CEQA Guidelines, Appendix I (II.4.c) and (II.5.c))
- Deteriorate existing fish or wildlife habitat (CEQA Guidelines, Appendix I (II.5.d))
- Conflict with any approved regional Habitat Conservation Plan.

4.2 IMPACTS

Would the proposed project cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community (CEQA Guidelines, Section 15065 (a))??

The proposed project would remove 160 acres of saltbush desert scrub and associated native biological resources, including habitat utilized by the threatened desert tortoise. The project site comprises a total of 160 acres that is located within the approximately 9.3 million acre planning area of the proposed WMP. Of this planning area, there are approximately 3.3 million acres of public lands in the area of the project site that are focused on desert tortoise conservation. The proposed project is also not expected to decrease the overall potential carrying capacity for wildlife species in the project area or eliminate a plant or animal community. Mortality of desert tortoise may occur indirectly through habitat loss; however, it is not likely given the recommended BMPs.

Would the proposed project substantially diminish or reduce habitat for fish, wildlife, or plants (CEQA Guidelines, Section 15065 (a), Appendix G (t))?

Loss of 160 acres of potential Mohave ground squirrel habitat would be considered adverse but not significant due to the lack of occupation by this sensitive species onsite. However, significant adverse impacts to desert tortoise will occur as a result of this project, and include:

- Loss of 160 acres of desert tortoise habitat that is located within the Fremont-Kramer DWMA and ACEC, and BLM Category I desert tortoise habitat. No direct mortality of tortoise is expected;
- Increased truck traffic along existing access routes (including Helendale Road) may increase the potential for loss of desert tortoise through vehicle collisions;
- Increased truck traffic along the existing access routes may increase the amount of road-killed mammals and reptiles. This increased availability of carrion could attract ravens to the project vicinity and lead to increased potential for predation of hatchling desert tortoise.

It is important to note that composting facilities have been inaccurately compared to landfills; however, the proposed composting activities will not likely attract ravens or other birds directly because the compost would not contain edible food or other garbage that would appeal to ravens and other scavengers (see photos in Appendix A, Biological Resources Technical Report). Ravens were not recorded at a similar composting site in Adelanto over a recent 5-year monitoring period of the facility during monthly inspections by the San Bernardino County Environmental Health.

Would the proposed project interfere substantially with the movement of resident or migratory fish or wildlife species: Although 160 acres of desert scrub will be lost by the proposed Project, the proposed Project is not expected to have a significant effect on wildlife movement due to the continuity of suitable habitat in existing corridors on public lands in the vicinity of the project site. In addition, the site and the surrounding area is located within the Fremont-Kramer DWMA, which is part of a large-scale habitat conservation area proposed by the WMP to conserve desert tortoise, Mohave ground squirrel, and other species (Figure 3). As part of mitigation for loss of the desert tortoise habitat, the project proponent should be encouraged to purchase parcels in the project vicinity that would contribute to conserving the existing continuity of suitable habitat in the east-west direction.

All migratory and non-game native breeding bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA). Vegetation clearing during the bird nesting season could result in the direct loss of native birds or their active nests. Potential for these impacts can be avoided by limiting vegetation clearing to the non-breeding season (August to February).

Would the proposed project introduce new species of plants or animals into an area, or act as a barrier to the normal replenishment of existing species: The proposed Project will import green material to the site from a variety sources. The possibility exists that new species of plants could be introduced to the area. Without mitigation, this impact could be significant.

Would the proposed project conflict with any approved regional Habitat Conservation Plans (HCPs): The proposed project site is located within the planning area of the proposed WMP; but the HCP that is

proposed as part of WMP is not completed at this time. However, the mitigation measures that are proposed are consistent with the mitigation measures and BMPs recommended within the proposed WMP. Consequently, the proposed project would not be in conflict with an approved regional HCPs.

Would the proposed project change the diversity of species, or number of any species of plants: The project site is comprised of the same vegetation community with a similar level of diversity as the surrounding, largely undeveloped project vicinity, with an apparently low density of desert tortoise (2 tortoises detected within 200 acres surveyed) occurring within and adjacent to the project site. Direct project impacts would include removal of 160 acres of vegetation within the boundaries of the project site; however, direct mortality of desert tortoise or other species is not expected.

Would the proposed project deteriorate existing fish or wildlife habitat (CEQA Guidelines, Appendix I (II.5.d)): Potential indirect impacts include the increased risk to desert tortoise of metal toxicity from air-borne particulate matter that may be carried by the wind from the windrows on the project site to desert tortoise habitat. Heavy metals, including cadmium, mercury, lead, molybdenum, arsenic, selenium, chromium, and nickel, have been found in the livers and kidneys of ill tortoises, and are linked to upper respiratory tract disease, shell lesions, and other serious illnesses. It is unknown whether compost can cause such high levels of airborne metals that may affect desert tortoise through the food chain. Literature on the effect of compost use on heavy metal levels in the soil environment indicate that it varies according to soil type, plant species, and compost composition. It has also been reported that the metals in compost are important in minimizing metal absorption in plants, which could indirectly minimize heavy metals absorption in desert tortoise. Since tortoise will be removed from the site prior to construction, a permanent fence will be installed around the perimeter and the windrows will not be turned during high wind situations, desert tortoise are not expected to be exposed to increased levels of heavy metals from the composting site.

4.2.1 Cumulative Impacts

An incremental reduction in desert scrub vegetation and loss of native biological resources will occur as a result of the proposed project. However, the Hawes site is a relatively small area within a large block of habitat proposed for conservation within the Fremont-Kramer DWMA and ACEC and the much larger proposed conservation area of the WMP. The site is located on private property, and there is a large patchwork of state-and federal-owned lands in the surrounding area. Adverse cumulative impacts include the potential opportunity to develop other private lands in the project vicinity. A regional HCP, if approved, would address potentially significant cumulative impacts to biological resources in the project vicinity.

SECTION 5 MITIGATION

Project-related significant impacts include loss of desert tortoise habitat. The following mitigation measures have been proposed to ensure compliance with the requirements of the West Mojave Plan and the County of San Bernardino General Plan to reduce the impacts from the proposed project to less than significant. In addition, Best Management Practices (BMPs) and mitigation measures that have been developed by the WMP will be incorporated as mitigation for this project. Incorporation of these measures will reduce indirect impacts associated with the project to a level less than significant.

1. Purchase of offsite conserved habitat at a compensation ratio of 5:1 (800 acres), as recommended in the proposed WMP for projects within the boundaries of DWMA. Purchase of lands within the project vicinity that would conserve east-west habitat continuity would be preferred if available and practicable.
2. All employees, subcontractors, construction personnel, and other individuals who work on-site shall participate in a desert tortoise awareness program with educational materials provided by the West Mojave Implementation Team. The program shall be administered by the Authorized Biologist or Environmental Monitor. The program may be given in the field prior to initiation of construction activities, and shall include truck drivers, delivery personnel, and other project-related personnel occasionally entering the work site. Wallet-sized certification cards shall be provided to personnel who have attended the training.
3. A permanent tortoise-proof fence shall be installed around the perimeter of the project impact area prior to grading of the site. Once the fence is installed, clearance surveys for desert tortoise shall be conducted by qualified biologists to locate and remove any tortoises and close their burrows within the project site. An authorized biological monitor shall be present during construction to ensure that tortoises do not re-enter the construction area and to remove or rescue any individuals that may be injured. Mortality of any tortoise shall be reported to wildlife agency staff.
4. Between February 15 and November 15, the tortoise clearance survey shall occur within 48 hours prior to ground disturbance. Between November 16 and February 14, the survey may be performed several days or weeks prior to ground disturbance.
5. Where practicable, vegetation clearing activities shall occur when tortoises are least likely to be active, generally between November 15 and February 15.
6. Cross-country vehicle use shall be prohibited and signs posted.
7. Except on paved roads with posted speed limits, vehicle speeds shall not exceed 20 miles per hour through desert tortoise habitat. This speed limit shall be posted along all access routes associated with the project. Any tortoises encountered on the roads shall be avoided by drivers where feasible (i.e., driver will stop and wait for tortoise to cross road).
8. All trash and discarded food items generated by construction and operation activities shall be promptly contained and regularly removed from the project site to reduce the attractiveness of the area to ravens and other potential desert tortoise predators. Additionally, all artificial water sources must be covered or otherwise made inaccessible to wildlife.

9. The project proponent shall obtain an incidental take permit/authorization from the wildlife agencies prior to project implementation
10. Adequate funding, as defined by permit conditions and the Implementing Agreement associated with the permit, must be set aside to manage the conserved habitat and to monitor the effects of the project on the surrounding habitat.
11. Mohave ground squirrel trapping surveys shall be conducted prior to construction of the project to determine this species presence within the project area.
12. Baseline studies for invasive plants shall be done in the fire break of the property, as well as within a 500-foot buffer outside of the fire break, no later than 30 days after the facility opens. These surveys should be conducted in early spring 2007 if the facility would open later that year. All plant species that are present shall be identified and this area monitored annually (early spring) to detect any invasive species that may be present. An herbicide that is appropriate to the species shall be applied to prevent dispersal of exotic or invasive plant species onto BLM property and adjacent habitat.
13. The project site must maintain an adequate water supply and delivery capacity as well as clear aisles between windrows for easy access in case of fire.

SECTION 6 CONCLUSIONS

Surveys were conducted by URS biologists in January, April, and May, 2006. The privately-owned project site is located within desert tortoise critical habitat, and suitable habitat for desert tortoise is present onsite and in the immediately surrounding area. Desert tortoise sign was observed onsite, and 2 live tortoises and active burrows, as well as other sign of this species were observed within 600 feet to the south and east of the project site. The project site is also located within BLM Category I desert tortoise critical habitat and the Fremont-Kramer DWMA and ACEC. Two other special status species were detected onsite. No federal or state regulated wetlands or waters were detected on the project site.

Since 160 acres of suitable desert tortoise habitat that is located within critical habitat and a DWMA will be removed by implementation of the proposed project, significant adverse impacts to desert tortoise are expected. Mitigation measures to reduce and compensate for impacts due to loss of desert tortoise habitat, and to minimize the potential for take of desert tortoise within the Zone of Influence during project construction have been proposed. These mitigation measures are intended to ensure compliance with the proposed WMP and the County of San Bernardino General Plan, and reduce impacts to a level less than significant.

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Photograph #1

Comments:
Project site facing north.



Photograph #2

Comments:
Project site to the east/southeast.



Photograph #3

Comments:
Center of project site, showing cryptogamic crusts on soil.



Photograph #4

Comments:
Potential desert tortoise burrow on the project site.



Photograph #5

Comments:
Existing woodchip piles on the project site.



Photograph #6:

Comments: Area of wash that becomes discontinuous open flood flow.



Photograph #7

Comments:
Flow route that shows a wide flood flow.



Photograph #8:

Comments:
Flood flow through middle of project site.



Photograph #9

Comments:

Portion where flood flow disappears and is discontinuous to rest of flow.



Photograph #10:

Comments:

Animal tracks/path along flood flow.



Photograph #11

Comments:
Area of flood flow showing discontinuity.



Photograph #12

Comments:
Flow route at southern part of site.



Photograph #13

Comments:

Example of a co-composting site with rows of windrows.



Photograph #14

Comments:

Example of windrows.

APIACEAE	
<i>Lomatium mohavense</i>	Mojave lomatium
ASCLEPIADACEAE	
<i>Asclepias erosa</i>	desert milkweed
ASTERACEAE	
<i>Ambrosia dumosa</i>	burrowbush
<i>Rafinesquia neomexicana</i>	desert chicory
<i>Malacothrix coulteri</i>	snake's head
<i>Monoptilon belloides</i>	desert star
<i>Eriophyllum wallacei</i>	Wallace eriophyllum
<i>Ericameria linearifolia</i>	interior goldenbush
<i>Lasthenia californica</i>	goldfields
<i>Hymenoclea salsola</i>	burrowbush
<i>Tetradymia spinosa</i>	cotton-thorn, horsebush
BORAGINACEAE	
<i>Cryptantha circumscissa</i>	western cryptantha
<i>Pectocarya setosa</i>	bristly pectocarya
<i>Amsinkia tessellate</i>	devil's lettuce
BRASSICACEAE	
<i>Lepidium fremontii</i>	desert alyssum
<i>Tropidocarpum gracile</i>	slender dobie-pod
CACTACEAE	
<i>Cylindropuntia ramosissima</i>	diamond cholla
<i>Cylindropuntia echeinocarpa</i>	silver cholla
<i>Cylindropuntia acanthocarpa</i>	buckhorn cholla
<i>Sclerocactus polyancistrus</i>	Mojave fishhook cactus
CHENOPODIACEAE	
<i>Atriplex polycarpa</i>	saltbush
EUPHORBIACEAE	
<i>Chamaesyce albomarginata</i>	rattlesnake spurge
FABACEAE	
<i>Astragalus layneae</i>	Layne milkvetch
GERANIACEAE	
<i>Erodium cicutarium</i>	filagree/storksbill
HYDROPHYLLACEAE	
<i>Phacelia crenulata</i>	notch-leaved phacelia
ONAGRACEAE	
<i>Oenothera primiveris</i> ssp. <i>primiveris</i>	yellow evening primrose
<i>Camissonia camprestris</i>	Mojave sun cup

POACEAE*Schizmus barbatus*

Mediterranean schizmus

POLYGONACEAE*Chorizanthe rigida*

spiny herb

*Eriogonum*ssp.

annual buckwheat

SOLANACEAE*Lycium cooperi*

peach thorn

Lycium andersoni

Anderson thornbush

VISCACEAE*Phoradendron californicum*

desert mistletoe

ZYGOPHYLLACEAE*Larrea tridentate*

creosote

LATIN NAME	COMMON NAME
BIRDS	
<i>Amphispiza belli</i>	Sage sparrow (CSSC)
<i>Amphispiza bilineata</i>	Black-throated sparrow
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Circus cyaneus</i>	Northern harrier (CSSC)
<i>Corvus corax</i>	Common raven
<i>Eremophila alpestris actia</i>	California horned lark (CSSC)
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
MAMMALS	
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel
<i>Canis latrans</i>	Coyote
<i>Lepus californicus</i>	Black-tailed jackrabbit
<i>Vulpes macrotis arsipus</i>	Kit Fox
REPTILES	
<i>Callisaurus draconoides</i>	Zebra-tailed lizard
<i>Crotalus scutulatus</i>	Mojave green rattlesnake
<i>Gopherus agassizi</i>	Desert tortoise (SE/FE)
<i>Phrynosoma platyrhinos calidiarum</i>	Horned lizard

FE= Federally listed as Endangered

FT = Federally listed as Threatened

CSSC = California Species of Special Concern

