

Environmental Assessment and Habitat Conservation Plan
for Issuance of an Endangered Species Act Section 10(a)(1)(B)
Permit for the Incidental Take of the
Golden-cheeked Warbler (*Dendroica chrysoparia*)
During Construction, Operation and Occupation of Approximately 219 Acres of
Residential and Commercial Development on the Approximately 498-acre
Vista Royale Property, Lakeway, Travis County, Texas

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July 14, 1998

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COVER SHEET

Title for Preferred Alternative: Issuance of an Endangered Species Act Section 10(a)(1)(B) permit for the incidental take of the endangered golden-cheeked warbler (*Dendroica chrysoparia*) during construction, operation, and occupation of residential and commercial development on the 498-acre Vista Royale Property, Lakeway, Travis County, Texas.

Unit of the U.S. Fish and Wildlife Service Proposing the Action: Regional Director, Region 2, U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

Legal Mandate for Preferred Action: Endangered Species Act of 1973, as amended, Section 10(a)(1)(B), as implemented by 50 CFR 17.22.

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1.0 INTRODUCTION

Lakeway Vista Royale, Ltd. (Applicant), an affiliate of Lakeway Partners, L.L.C., has applied for a Section 10(a)(1)(B) permit under the Endangered Species Act (Act) to authorize the incidental take of the listed endangered golden-cheeked warbler (*Dendroica chrysoparia*) associated with the otherwise lawful construction and occupation of (1) residential and commercial development, with associated streets, utilities, and other improvements and facilities, on approximately 219 acres of the 498-acre Vista Royale property, (2) the establishment of conservation areas on the balance of the property, and (3) the construction and operation of a wastewater effluent spray irrigation system within portions of such conservation areas. Vista Royale is located southeast of and directly adjacent to the City of Lakeway and has approximately 0.75 miles of frontage on Ranch Road (R.R.) 620. The property also lies approximately two miles northwest of the Village of Bee Cave and roughly 14.5 miles west-northwest of downtown City of Austin (Figure 1). A habitat conservation plan has been developed that will avoid, minimize, and mitigate the potential impacts to the golden-cheeked warbler to the greatest extent practicable (Section 6.0).

2.0 PURPOSE AND NEED FOR ACTION

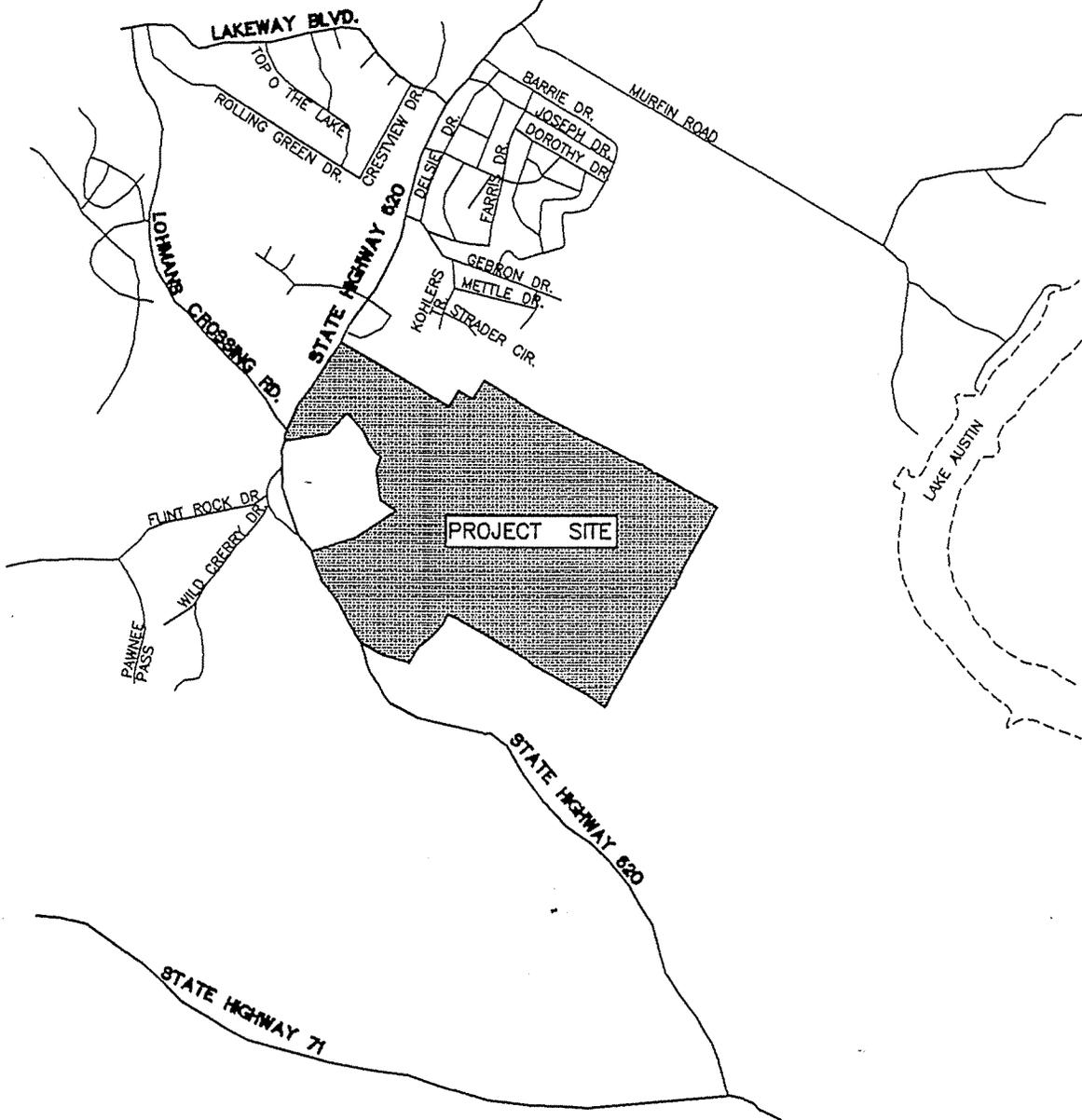
The purpose of the Environmental Assessment/Habitat Conservation Plan (EA/HCP) is to evaluate the environmental impacts of the preferred action and alternatives of the project. The need for the action is because the Applicant has submitted an application for a permit to allow the incidental take of the federally listed golden-cheeked warbler which has been documented to occur on portions of the subject tract. The implementing regulations for section 10(a)(1)(B) of the Endangered Species Act (Act) of 1973 as amended, as provided by 50 CFR 17.22, specify the criteria by which a permit allowing the incidental take of listed species pursuant to otherwise lawful activities may be obtained.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 VEGETATION

Vista Royale lies on the eastern edge of the Edwards Plateau and has a topography, relatively flat-topped hills and plateaus separated by steeply incised canyons, typical of the region. Two main tributaries of Honey Creek are present in the eastern and west-central portions of the property and both drain northward. A third small tributary of Honey Creek is located at the extreme northwestern edge of the property. Upland hills and plateaus divide these drainages.

Vegetation along drainages consists primarily of mixed Ashe juniper (*Juniperus ashei*)/live oak (*Quercus virginiana*) woodland. Canopy cover is generally closed (greater than 75%) throughout these areas. Deciduous trees occur in moderate densities on the slopes above the drainage bottoms. The most common species present are Texas oak (*Quercus texana*), black cherry (*Prunus serotina*), cedar elm (*Ulmus crassifolia*), and shin oak (*Quercus sinuata* var. *breviloba*). Other deciduous trees present in low densities include American sycamore (*Platanus occidentalis*),



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VISTA ROYALE

FIGURE 1 PROJECT LOCATION MAP

Date: 01/15/96	Scale: NTS	Drawn by: JHS	FILE NAME:118SHLOC.DWG	Project No.:118-08.
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Arizona walnut (*Juglans major*), sugarberry (*Celtis laevigata*), black willow (*Salix nigra*), and Carolina buckthorn (*Rhamnus caroliniana*). Due to the dense canopy within these areas, understory vegetation is sparsely developed and primarily limited to large shrub species such as yaupon (*Ilex vomitoria*), Mexican silktassel (*Garrya lindheimeri*), Texas persimmon (*Diospyros texana*), hoptree (*Ptelea trifoliata*), redbud (*Cercis canadensis*), and red buckeye (*Aesculus pavia*).

Vegetation on some of the upper slopes of drainages in the western portion of the property appears to have been cleared at some time in the past. Trees in these areas, mostly juniper, live oak and Texas oak, are relatively short and occur at lower densities.

Vegetation on upland areas of Vista Royale has been highly disturbed by ranching and grazing. Vegetation in these areas consists primarily of open and semi-open Ashe juniper/live oak woodland with trees, or small clusters of trees, separated by large grassy clearings. Juniper is dominant and most trees range between 11 and 16 feet in height. Shrub development is generally poor; species present include agarita (*Berberis trifoliolata*), Texas madrone (*Arbutus xalapensis*), prickly pear (*Opuntia lindheimeri*), kidneywood (*Eysenhardtia texana*), mountain laurel (*Sophora secundiflora*), flameleaf sumac (*Rhus lanceolata*), and Texas sophora (*Sophora affinis*).

3.2 WILDLIFE

No specific surveys for animals other than listed species are known to have been made on the property, but wildlife is expected to be typical of the area.

Common mammals on the property are expected to include white-tailed deer (*Odocoileus virginiana*), armadillo (*Dasypus novemcinctus*), fox squirrel (*Sciurus niger*), Texas mouse (*Peromyscus attwateri*), white-ankled mouse (*Peromyscus pectoralis*), and raccoon (*Procyon lotor*). Common permanent resident bird species include Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), Bewick's wren (*Thryomanes bewickii*), and northern cardinal (*Cardinalis cardinalis*).

3.3 THREATENED OR ENDANGERED SPECIES

Ten animal species that occur in western Travis County are listed as endangered by the U.S. Fish and Wildlife Service (USFWS). Two of these are birds, the golden-cheeked warbler and the black-capped vireo (*Vireo atricapillus*); seven are cave-dwelling invertebrates, the Tooth Cave pseudoscorpion (*Tartarocreagris texana*), Tooth Cave spider (*Neoleptoneta myopica*), Tooth Cave ground beetle (*Rhadine persephone*), Kretschmarr Cave mold beetle (*Texamaurops reddelli*), Coffin Cave mold beetle (*Batrissodes texanus*), Bee Creek Cave harvestman (*Texella reddelli*), and Bone Cave harvestman (*Texella reyesi*); and the Barton Springs salamander (*Eurycea sosorum*), is an amphibian. Of these, only the golden-cheeked warbler is known to occur on the Vista Royale property.

The golden-cheeked warbler was emergency listed in May 1990 and listed under the regular listing process in December of that same year. Golden-cheeked warblers are known to occur on and adjacent to the Vista Royale property. Surveys for golden-cheeked warblers were conducted on the Vista Royale property by Espey, Huston and Associates (EH&A) in 1993 and 1995. Based upon the distribution of observations, movements of birds and contemporaneous vocalizations, all or portions of 16 golden-cheeked warbler territories were estimated present on the Vista Royale property in 1993 (Figure 3a). All or significant portions of 19 golden-cheeked warbler territories were estimated present on Vista Royale in 1995 (Figure 3b). All golden-cheeked warbler sightings in both years were restricted to hillsides and canyon bottoms. No other surveys for golden-cheeked warblers are known to have been conducted on the Vista Royale property.

The black-capped vireo was listed in November 1987. No black-capped vireos have ever been observed on Vista Royale and no suitable habitat for the species is present on or adjacent to the property.

All of the cave invertebrates were listed in September 1988 except for the Bone Cave harvestman and Coffin Cave mold beetle, which were described from specimens previously attributed to the Bee Creek Cave harvestman and the Kretschmarr Cave mold beetle, respectively, subsequent to the 1988 listing. The seven species of endangered cave invertebrates are believed to be restricted to a karst geologic region known generally as the Edwards geologic formation in Travis and Williamson counties. Edwards limestone does not occur on Vista Royale; the property is underlain by the Glen Rose formation, which typically does not form the caves and subsurface voids known to support the listed cave invertebrates. No caves are known to occur on or immediately adjacent to Vista Royale and the property lies outside of areas identified as potential habitat for any of the federally listed cave invertebrates (Butler/EH&A Team 1992).

The Barton Springs salamander was listed as endangered in May 1997. The Barton Springs salamander is known only from four springs located in a city park in Austin approximately 13 miles southeast of the property. These springs are fed by flow from the southern Edwards aquifer. The recharge zone for this aquifer consists of a portion of the surface outcrop of the Edwards limestone south of the Colorado River in Travis and northern Hays counties. The watersheds of creeks flowing through the recharge zone form a contributing zone that lies up-drainage of the recharge zone. Vista Royale lies outside of the recharge and contributing zones of the southern Edwards aquifer (Slade et al. 1986); therefore, surface water runoff from the property does not have the potential to adversely impact the Barton Springs salamander.

Two other amphibians, the Jollyville Plateau salamander (*Eurycea* sp.) and Texas salamander (*Eurycea neotenes*), and three plants, the bracted twistflower (*Streptanthus bracteatus*), canyon mock-orange (*Philadelphus ernestii*), and Texabama croton (*Croton alabamensis texensis*), are considered to be rare in Travis County and protection for some of these species is provided for in the Balcones Canyonlands Preserve (BCP), a regional habitat conservation plan for western Travis County.

Jollyville Plateau salamanders are apparently restricted to locations north of the Colorado River. Surface water runoff from the property, which is located in the Lake Austin watershed south of the Colorado River, does not contribute to water flow at the springs known to contain these salamanders. Texas salamanders are known to occur at only one location in Travis County, approximately 11 miles southwest of the Vista Royale property. Runoff from the property does not contribute to water flow at the springs known to contain Texas salamanders.

Virtually the entire Vista Royale property was identified as potential habitat for bracted twistflower and canyon mock-orange in a 1989 status report on these species (McNeal 1989). However, the nearest known occurrence of bracted twistflower to Vista Royale is approximately 11 miles to the east. The nearest known location of canyon mock-orange to the property is roughly two miles to the southeast. Neither of these species is known to occur on the property.

In Travis County, Texabama croton is known from only a small number of scattered localities, most of which are in the Post Oak Ridge area roughly 16.5 miles north-northwest of the property. The nearest that this species is known to occur to the property is on the northeast side of Lake Travis approximately 9.5 miles to the north-northeast.

3.4 WETLANDS

A small (approximately 0.1 acre) bermed cattle tank located within a drainage in the northeast portion of Vista Royale may qualify as a wetland. There are also some possible springs and seeps along drainages.

3.5 GEOLOGY AND SOILS

Surface geology of Vista Royale consists of the upper and lower units of the Glen Rose formation. This lower Cretaceous formation consists of limestones, dolomites, and marls. In the Austin area, the Glen Rose is typically not conducive to the development of karst features.

Soils on Vista Royale are classified within the Brackett Association. These soils are typically shallow, gravelly, calcareous, and loamy (SCS 1974). Three soil series occur on the property: 1) Brackett soils, rolling; 2) Brackett soils and rock outcrop, steep; and 3) Tarrant soils and rock outcrop, steep. Brackett soils, rolling, occur on ridgetop and plateau areas. These soils typically consist of gravelly clay loams and broken limestone fragments. Brackett soils and rock outcrop, steep, occur on steep slopes of ephemeral drainages in the central portion of the property. Soils of this series typically consist of gravelly clay loams and broken limestone. Outcrops of limestone bedrock are common within this series.

Tarrant soils and rock outcrop, steep, occur only on the northeastern edge of the property along the upper slopes of a drainage. This soil consist of dark clay loam mixed with limestone rock.

3.6 LAND USE

Vista Royale is located on the east side of R.R. 620 on the southern edge of the City of Lakeway, Texas. The property is bounded by the City of Lakeway and R.R. 620 to the west; adjacent lands in this direction are primarily comprised of commercial development and a high school. The front 1,000 feet of the property is now purportedly annexed as a part of the City of Lakeway. The majority of lands immediately to the north consists of undeveloped woodland, although developed portions of the City of Lakeway lie nearby in this direction. Lands to the east and south consist primarily of undeveloped woodland and rangeland. Vista Royale is bounded on the north, east and south by City of Austin-owned properties that are included in the Balcones Canyonlands Preserve (BCP). The BCP is a regional 10(a)(1)(B) permit that when fully implemented will preserve 30,428 acres of habitat for the golden-cheeked warbler, black-capped vireo and 6 karst invertebrates.

3.7 AIR QUALITY

Travis County and the Austin metropolitan area are currently full attainment areas for all air quality criteria pollutants of the Texas Natural Resource Conservation Commission and the Environmental Protection Agency, although changes in attainment standards could affect Austin's attainment status. Degradation of air quality from automobile exhaust is a potential problem in the Austin area and has been a consideration over the past 10 years as the population has increased.

3.8 WATER QUALITY

Quality of surface water runoff on Vista Royale is estimated to be good due to a well-developed vegetative cover. Runoff from the property drains into tributaries of Honey Creek and ultimately into Lake Austin.

3.9 CULTURAL RESOURCES

Archaeological background literature and records searches conducted at the Texas Archaeological Research Laboratory (TARL) and the Texas Historical Commission indicate that no previously recorded sites are located on the property. Previously conducted archaeological investigations on properties in the vicinity of Vista Royale have shown there to be a low to moderate density of prehistoric sites located in the area. In general, these sites consist of rock shelters, burned rock middens, lithic scatters, and campsites located at canyon heads and on terraces overlooking local creeks and tributaries. Recorded sites range in age from the Paleo-Indian Period to the Late Prehistoric Period (ca. 10,000 B.C. to A.D. 1600). In addition, several historic sites (post-1600's) have been recorded in the area. No archaeological or historic sites are known to be located on the property.

4.0 ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

This section presents details of the action and the reasonably practicable alternatives that have been considered. The alternatives include: 1) preferred alternative; 2) participation in the BCP regional 10(a) permit; and, 3) no action. The environmental consequences of each of these alternatives are presented in Section 5.0.

4.1 ALTERNATIVE 1 - PREFERRED ALTERNATIVE

The preferred alternative is the issuance of a permit under Section 10(a)(1)(B) of the Act to authorize the incidental take of the endangered golden-cheeked warbler during the residential and commercial development, construction, and occupation of Vista Royale.

The permit issuance would allow the incidental take as a result of development and use of the subdivision (lots, streets, utilities), including within that portion of the property documented to support the golden-cheeked warbler on a seasonal basis. The project consists of the development and sale of primarily residential lots and mixed-use commercial development on the roughly 498-acre property. Although the overall extent of habitat disturbance has been established, final configuration of streets and residential lots has not been determined at this time. Restrictions placed on placement of homes and vegetation clearing within lots would limit development to approximately 219 acres, primarily on plateau and ridgetop areas (Figure 2). Most of the remaining 279 acres of property will remain in a natural condition.

Water service is currently planned to be provided by the WCID 17. Wastewater would be treated on-site. Some lands shown on Figure 2 as outside the limits of development, primarily an upland area along the southern property boundary, may be used for spray irrigation of treated wastewater effluent in accordance with applicable regulations. Utility and water lines would be placed within road rights-of-way, except for the lines that will carry treated wastewater effluent to spray irrigation areas. Surface water quality protection measures will be implemented in accordance with the applicable state and/or local requirements.

A habitat conservation plan has been developed as part of the preferred alternative as mitigation for the incidental taking of the golden-cheeked warbler. The conservation plan is described further in Section 6.0.

4.2 ALTERNATIVE 2 - PARTICIPATE IN THE REGIONAL 10(a)(1)(B) PERMIT

This alternative assumes that the applicant would participate in the BCP regional Section 10(a)(1)(B) permit for western Travis County. The rationale for rejection of this alternative is presented in section 5.2.

4.3 ALTERNATIVE 3 - NO ACTION

This alternative assumes that all proposed development does not occur, and that no application for incidental take is processed. A discussion of the ramifications of this alternative is presented in section 5.3.

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 ALTERNATIVE 1 - PREFERRED ALTERNATIVE

5.1.1 On-site Impacts

5.1.1.1 Vegetation

Approximately 219 acres of land are proposed for development under this alternative. Vegetation within the areas proposed for development will be significantly disturbed as a result of grading for new roads, construction of buildings, and landscaping. Most clearing will occur on plateaus and ridgetops that currently support open rangeland and open juniper/live oak woodlands. Vegetation in areas not proposed for development, including spray irrigation areas, will remain substantially in its natural state. Minor removal of some small trees will be necessary to install the irrigation system; installation of the spray irrigation system will take place outside of the warbler nesting season. The higher moisture regimes from the spray effluent may slightly increase the growth of certain plants, especially deciduous trees, while growth of other, more xerophytic species such as Ashe juniper, may be suppressed.

5.1.1.2 Wildlife

Wildlife within those areas planned for development would largely be displaced to adjacent areas during the construction process. Following construction, landscape vegetation and preserved trees will provide habitat for those species tolerant of suburban development. Significant portions of the property, specifically canyon slopes and bottoms that support vegetation with the greatest wildlife value on the tract, will remain undisturbed and continue to provide habitat for the wildlife species that currently utilize the area. Direct and indirect effects of development on the plateau areas may result in slight negative or positive impacts to the populations of some species on the property.

5.1.1.3 Threatened and Endangered Species

The only listed species known to occur on Vista Royale is the golden-cheeked warbler. No species proposed for listing are known to occur in the area or have the potential to be affected by the proposed alternative. Much of Vista Royale has been identified as potential habitat for canyon mock-orange and bracted twistflower, two rare species of concern, although neither species is

known to occur on the property. If either of these plant species is present on the property, they would most likely occur on slopes that lie outside of areas proposed for development.

Impacts to golden-cheeked warblers resulting from the project are expected. These impacts include adverse modification of occupied habitat and indirect impacts resulting from development. Approximately 297 acres of the 498-acre Vista Royale property are believed to be habitat for the golden-cheeked warbler. Approximately 99 acres of golden-cheeked warbler habitat are expected to be directly or indirectly impacted as a result of proposed development.

5.1.1.4 Assessment of Take

Based on the distribution of golden-cheeked warbler habitat and 1993 and 1995 survey data on Vista Royale, approximately 26 acres of habitat would be directly modified and 73 acres of habitat negatively impacted by completion of the proposed development plan, which is expected to result in the take of 13 golden-cheeked warbler territories.

As part of the preferred alternative, a habitat conservation plan (HCP) has been developed to minimize the potential adverse modification of habitat described above and to assure that this action does not reduce the potential for survival and recovery of the golden-cheeked warbler in the wild, as mandated by requirements of 50 CFR Part 17.22(b)(1)(iii). The HCP is detailed in Section 6.0.

No take is anticipated for any other federally listed or proposed species.

5.1.1.5 Wetlands

A stock tank present in the northeastern portion of the property lies within an area proposed for development. This tank may qualify as a wetland and may be impacted by development.

5.1.1.6 Geology and Soils

Grading for new construction will be minimal and will comply with all City of Lakeway construction codes for erosion and sedimentation control during the construction process. Surface soil alterations would occur within development areas, but the Applicant will comply with all applicable City of Lakeway Land Development Code requirements for erosion and sedimentation control during the construction process.

5.1.1.7 Land Use

The preferred alternative is fully comparable and compatible with current land uses in the area. Moderate to high density residential areas and commercial development are present nearby to the north and northwest. Approximately 219 acres will be converted from rangeland and woodland to urban residential and commercial development.

5.1.1.8 Air Quality

The preferred alternative will contribute to local traffic noise and exhaust emissions by increasing the number of people operating vehicles in the area. A reduction in the number of trees on the property may slightly reduce local air filtering capabilities, although this reduction may be offset by future landscaping. A temporary increase in noise and dust levels is expected during the construction process.

5.1.1.9 Water Quality

Because surface water quality mitigation would be designed in accordance with applicable state and/or local regulations, no significant impacts to local water quality are expected to occur as a result of the preferred alternative.

5.1.1.10 Cultural Resources

According to Texas Historical Commission and Texas Archeological Laboratory files, no significant archaeological sites are known to occur on Vista Royale and none have been observed. No significant impacts to cultural resources are expected to occur as a result of the preferred alternative.

5.1.2 Off-site Impacts

5.1.2.1 Vegetation

Indirect impacts to nearby vegetation may occur because of: (1) introduction and spread of non-native plant species, and, (2) increased likelihood of oak wilt infestation.

5.1.2.2 Wildlife

Displacement of certain wildlife species is expected to occur from the development site into adjacent greenbelts and properties, which could result in increased competition for nesting, foraging, breeding, and feeding areas. Landscape vegetation will provide habitat for those species of wildlife suited for coexistence with urban development. The undevelopable portions of the canyon system are expected to remain in their natural vegetational state and would continue to provide habitat for some of the wildlife species that currently utilize this area. Undetermined negative or positive effects associated with the promotion of urban wildlife species and human activities associated with planned development may result in negative impacts to certain species while others may be unaffected or positively affected from this development.

5.1.2.3 Threatened and Endangered Species

The preferred alternative involves no construction outside its boundaries and thus will cause no direct adverse impacts to golden-cheeked warblers off-site. The majority of golden-cheeked warbler habitat surrounding the Vista Royale property will be buffered by the on-site conservation areas. A small area proposed for development in the northern portion of the property adjoins off-site golden-cheeked warbler habitat. Possible indirect off-site impacts may occur from development of this area. Potential indirect impacts may include increases in predation on warblers from suburban adapted predators, reduced fecundity due to noise increases, increases in brown-headed cowbird (*Molothrus ater*) parasitism rates on the warbler, and an increase in interspecific competition for food resources from suburban adapted avian species.

5.1.2.4 Wetlands

No off-site impacts to wetlands are expected to occur.

5.1.2.5 Geology and Soils

No off-site impacts to geology or soils are expected to occur.

5.1.2.6 Land Use

The preferred alternative will contribute to the ongoing population growth in the metropolitan area west of Austin. This will create an increased demand for public services such as utilities, police, schools and hospitals, and commercial enterprises such as stores, gas stations and other businesses.

5.1.2.7 Air Quality

Vehicle emissions and noise levels are expected to increase locally due to an increase in the number of vehicles operating in the area. This local increase will have a minor effect on regional air quality conditions. A temporary increase in noise and dust levels is expected during the construction process. These impacts will be reduced by prudent construction management practices.

5.1.2.8 Water Quality

The increase in impermeable cover and on-site sewage treatment may lead to increased soil erosion and decreased water quality. Construction methods and development techniques that retain runoff-on site can significantly reduce this potential impact.

5.1.2.9 Cultural Resources

No off-site impacts to cultural resources are expected to occur.

5.1.3 Cumulative Impact Analysis

This section considers the past, present, and future projects, authorized or under review, that are considered to contribute to the cumulative loss of species of concern.

5.1.3.1 Vegetation

As the preferred alternative would result in disturbance of the vast majority of vegetation, primarily juniper-live oak woodland, it would cumulatively contribute to loss of this vegetation type in Travis County resulting from development, road construction, and other land use projects increasing the fragmentation of large blocks of native vegetation by urban development.

5.1.3.2 Wildlife

The preferred alternative will contribute to a cumulative reduction of habitat for some wildlife species when added to impacts resulting from other development, road construction, and other land use projects in Travis County. Wildlife species associated with urban and suburban settings would likely increase while species intolerant of development would locally decrease.

5.1.3.3 Threatened or Endangered Species

The golden-cheeked warbler is a species which prefers large blocks of habitat with minimal urban disturbance. The preferred alternative will reduce the size of the habitat block and increase fragmentation of the habitat. It will also reduce the acreage available for preservation under the BCP. This alternative will contribute to the total take of golden-cheeked warblers and/or their habitat in the region when added to other section 10(a)(1)(B) incidental take permits that have been or will be issued by the Service. To date, 96 incidental take permits have been issued in the Austin area. These permits cover approximately 7,960 acres a portion of which included warbler habitat. There are currently 11 active incidental take permit applications being considered by the Service in the Austin area. These permits cover in excess of 3,110 acres, of which a portion is suitable warbler habitat. The level of impacts resulting from projects for which permits are currently being considered is dependent on the amount of take resulting from the actual number of these permits issued by the Service. Cumulatively, the anticipated take could significantly reduce the probability of survival of the golden-cheeked warbler and each application is being evaluated with respect to its impact on the golden-cheeked warbler population in Recovery Unit 5 (delineated in the Golden-cheeked Warbler Recovery Plan, 1992).

5.1.3.4 Wetlands

There are no significant impacts to wetlands as a result of this alternative. Therefore, no cumulative impacts are anticipated.

5.1.3.5 Geology and Soils

No significant cumulative impacts to geology and soils would occur as a result of the preferred alternative.

5.1.3.6 Land Use

The preferred alternative contributes to the conversion of undeveloped land to developed land in the Austin area. Past, present, and future developments must comply with all development codes.

5.1.3.7 Air and Water Quality

The preferred alternative will contribute to degradation of air quality in the Austin area, primarily through an increase in automobile exhaust emissions. The significance of the impact will depend upon air quality requirements for construction activities and automobiles. The continued development of the area could result in a significant cumulative impact on air quality.

The preferred alternative, complying with local water quality codes, will result in an increase in impermeable cover which can cause some change in existing water quality. However, this change is not anticipated to result in a significant cumulative impact from the single family residential lots that are to be developed.

5.1.3.8 Cultural Resources

This alternative, because of its limited scope, will not result in cumulative impacts to sites eligible for the National Register of Historic Places.

5.2 ALTERNATIVE 2 - PARTICIPATE IN THE REGIONAL 10(a) PERMIT

This alternative was rejected because it is economically infeasible.

5.3 ALTERNATIVE 3 - NO ACTION

The No Action Alternative would result in abandonment of development plans on the property. This alternative was rejected because it would result in the loss of significant monies invested in the property and in project planning and would result in severe economic hardship to the Applicant.

6.0 HABITAT CONSERVATION PLAN

As part of the preferred alternative, an HCP has been proposed to minimize the take described in section 5.1.1.4 above and to assure that this action does not reduce the potential for survival and recovery of the warbler in the wild, as mandated by requirements of 50 CFR Part 17.22(b)(1)(iii).

This section contains the Applicant's specific conservation proposals for the project. Any statements where the Service differs with these proposals will be in italics.

- Most of the undeveloped portion of the property, including approximately 198 acres of golden-cheeked warbler habitat, will be set aside and maintained as an on-site golden-cheeked warbler preserve. Much of this area occurs in a large block that lies within the South Lake Austin macro-site of the BCP preserve system directly adjacent to BCP preserve lands owned by the City of Austin. This area will either be conveyed to an appropriate conservation entity or dedicated by appropriate conservation easement or restrictive covenant.
- Clearing of vegetation in, or within 300 feet of, occupied golden-cheeked warbler territories will be initiated only between August 1 and March 1, unless breeding season surveys performed by a USFWS-permitted biologist indicate that no golden-cheeked warbler territories are present within 300 feet of the desired activity. Construction activities in or within 300 feet of golden-cheeked warbler territories may be initiated and continued during the time of year when golden-cheeked warblers are present so long as such construction follows permitted clearing in a prompt and expeditious manner indicating a continuous activity.

In addition the Service would include the following conditions in any issued permit:

- I. *The permittee is authorized to "Take" (kill, harm, or harass) the golden-cheeked warbler on the 498 acre property known as Vista Royale, incidental to activities necessary for the construction of a mixed-use development as described in the permittee's application.*
- II. *The current "No Surprises" policy of the U. S. Fish and Wildlife Service (USFWS) provides that additional mitigation requirements requiring additional land, water or financial obligations shall not be required of the Applicant or its successors or assigns beyond the level of mitigation provided for in this permit and the HCP if fully and completely complied with and implemented. With respect to this permit, the HCP and supporting documents adequately addressed the federally listed golden-cheeked warbler.*
- III. *The authorization granted by the permit is subject to full and complete compliance with, and implementation of, the Vista Royale Environmental Assessment/Habitat Conservation Plan (EA/HCP) for Lakeway Vista Royale, Ltd., in Travis County, TX; the implementing agreement executed by Lakeway Vista Royale, Ltd., and the USFWS; and all specific conditions contained in this permit. These permit terms and conditions shall supersede and take precedence over any inconsistent provisions in the EA/HCP, the implementing agreement, or other permit documents.*
- IV. *The mitigation for this permit with the approval of the USFWS may fully support and accrue full benefits to the Balcones Canyonlands Preserve, Permit PRT-788841.*

- E. *Prior to any destruction of habitat or direct or indirect take, approximately 198 acres of golden-cheeked warbler habitat shall be set aside and maintained as an on-site golden-cheeked warbler preserve as described in the EA/HCP. This area shall either be conveyed or transferred by transfer of deed or conservation easement granted in perpetuity to a conservation entity approved by the Fish and Wildlife Service.*
- F. *The permit, appropriate attachments such as transfer of deed or conservation easement for the mitigation acreage shall be recorded with the County Clerk, Travis County, Texas, prior to the beginning of development related activities on the Vista Royale property. A recorded copy of this action will be returned to the Service within 30 days.*
- G. *Acceptance of the permit serves as evidence that the Applicant understands and agrees to abide by the terms of the permit and all applicable Sections of Title 50 Code of Federal Regulations Parts 13, 17 and 21 pertinent to issued permits.*
- H. *Clearing of vegetation in, or within 300 feet of, occupied golden-cheeked warbler habitat will be initiated only between August 1 and March 1, unless breeding-season surveys performed by a USFWS-permitted biologist indicate that no golden-cheeked warblers are present within 300 feet of the desired activity, or as otherwise approved on a case-by-case basis by USFWS. Clearing within the proposed development areas shall be consistent with the current practices recommended by the Texas Forest Service to prevent the spread of oak wilt.*
- I. *Building, utility infrastructure and street construction may be conducted year round as long as the construction activities promptly follow the clearing activities and/or were initiated before March 1 therefore being a continuous activity before the breeding season began.*
- J. *Clearing for construction of buildings, streets, and other areas of impervious cover will be minimized to the greatest extent practicable. Areas outside of platted lots that are disturbed during construction, but are not occupied by impervious surfaces, will be replanted with native oaks and other native vegetation.*
- K. *Written annual reports of the years activities, including presence/absence surveys for the golden-cheeked warbler as described in the implementing agreement and status of clearing and construction, will be submitted by October 1 of each year to the USFWS Field Office 10711 Burnet, Suite 200, Austin, Texas 78758; and to the USFWS, P.O. Box 1306, 500 Gold Ave. SW, Albuquerque, NM 87102.*
- L. *Upon locating a dead, injured, or sick golden-cheeked warbler, or any other endangered or threatened species, permittee is required to contact the Service's Law Enforcement Office, Austin, Texas, (512)490-0948, for care and disposition instructions. Extreme care should be taken in handling sick or injured individuals to ensure effective and proper*

treatment. Care should also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered/threatened species, or preservation of biological materials from a dead specimen, the Permittee and its contractor/subcontractor have the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

- M. Conditions of this permit shall be binding on and for the benefit of the Permittee and their respective successors and assigns. If the permit requires an amendment because of change of ownership, the Service will process that amendment without the requirement of the applicant preparing any new documents or providing any mitigation over and above that required in the original permit. The construction activities proposed or in progress under an original permit may not be interrupted provided the required special conditions of an issued permit are being followed.*
- N. If during the tenure of this permit the project design and/or the extent of the habitat impact described in the habitat conservation plan is altered, such that there may be an increase in the anticipated take of the golden-cheeked warbler, the permittee is required to contact the Service and obtain authorization and/or amendment of the permit before commencing any construction or other activities that might result in take beyond that described in the EA/HCP.*

6.1 AMENDMENT PROCEDURE

It is necessary to establish a procedure whereby the Section 10(a)(1)(B) Permit and the Implementation Agreement can be amended. However, it is important that the cumulative effect of amendments will not jeopardize any endangered species or other species of concern. Amendments must be evaluated based on their effect on the habitat as a whole. The USWFS must be consulted on all proposed amendments which may affect the golden-cheeked warbler. The types of proposed amendments and the applicable amendment procedures are as follows:

6.2 AMENDMENTS TO LOCALLY APPROVED DEVELOPMENT PLANS

It is acknowledged that upon the written request of the Applicant, the local agency having land use regulatory jurisdiction is authorized in accordance with applicable law to approve amendments to development plans for the subject development area that do not encroach on any endangered species habitat that is not presently contemplated to be taken as a consequence of the development, and which do not alter the conditions set forth in the HCP or the Implementation Agreement.

6.3 MINOR AMENDMENTS TO THE HCP

Minor amendments involve routine administrative revisions or changes to the operation and management program and do not diminish the level or means of mitigation. Such minor amendments do not materially alter the terms of the Section 10(a)(1)(B) permit.

Upon the written request of the Applicant, the Service is authorized to approve minor amendments to the HCP upon information notice sent to the parties to the Implementation Agreement if the amendment does not conflict with the primary purpose of this HCP as stated in Section 2.0.

6.4 ALL OTHER AMENDMENTS

All other amendments will be considered an amendment to the Section 10(a)(1)(B) permit, subject to any other procedural requirements of federal law or regulation which may be applicable to amendment of such a permit.

7.0 PUBLIC AND AGENCY COORDINATION

The Applicant has been actively pursuing public and agency acceptance of the proposed development for several years, and is continuing to make significant efforts through numerous meetings with concerned groups, individuals, public officials, and agencies, to properly coordinate this proposed action with all potentially concerned entities.

The following agencies, organizations, and individuals were consulted or coordinated with during the process of addressing endangered species concerns for the Vista Royale property.

BCP Coordinating Committee
City of Austin
City of Lakeway
Cook-Steinman & Associates, Inc. - Austin, Texas
Espey, Huston & Associates - Austin, Texas
SWCA, Inc. - Austin, Texas
Travis County
United States Fish and Wildlife Service - Austin, Texas
United States Fish and Wildlife Service - Albuquerque, New Mexico

This document was originally prepared by SWCA, Inc. Environmental Consultants on behalf of the Applicant. The USFWS has modified portions of the document, except for the proposed habitat conservation plan in Section 6. Any statements where the Service differed with the proposal was noted in italics and enclosed in brackets.

Publication notification of the availability of the Environmental Assessment/Habitat Conservation Plan was published in the Federal Register. All concerned agencies and entities were provided a copy for review comment.

8.0 LITERATURE CITED

- Butler/EH&A Team. 1992. Balcones Canyonlands Conservation Plan, final draft. Unpublished document prepared for the executive committee of the Balcones Canyonlands Conservation Plan. Austin, Texas.
- McNeal, P. 1989. Status of *Streptanthus bracteatus*, *Philadelphus ernestii* and *Amorpha roemerana* in Travis County: a report for the Balcones Canyonlands Habitat Conservation Plan. Unpubl. report to the Biological Advisory Team.
- Slade, R.M., M.E. Dorsey, and S.L. Stewart. 1986. Hydrology and water quality of the Edwards Aquifer associated with Barton Springs in the Austin area, Texas. U.S. Geological Survey Water-Resources Investigations Report 86-4036.
- Soil Conservation Service. 1974. Soil Survey of Travis County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- United States Fish and Wildlife Service. 1992. Golden-cheeked warbler (*Dendroica chrysoparia*) recovery plan. Austin, Texas.