

**Low Effect Habitat Conservation Plan
for
Geotechnical Borings
Santa Barbara County, California**

Submitted to:

**United States Fish and Wildlife Service
Ventura Office
2493 Portola Road, Suite B
Ventura, CA 93003**

Submitted by:

**Pacific Renewable Energy Generation LLC
an indirect subsidiary of
Acciona Energy North America Corporation
333 West Wacker Drive, Suite 1500
Chicago, Illinois 60606**

**Contact: Kevin A. Martin
Environmental Manager, Western U.S.
Acciona Energy North America
420 Stevens Ave., Suite 240
Solana Beach, CA 92075
(858) 793-5100 x-002**

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List of Acronyms and Abbreviations

Acciona = Acciona Energy North America
CDFG = California Department of Fish and Game
CEQA = California Environmental Quality Act
CESA = California Endangered Species Act
CNLM = Center for Natural Land Management
CSC = California Species of Concern
EQAP = Santa Barbara County Environmental Quality Assurance Program
ES = Electric Substation
ESBB = El Segundo Blue Butterfly
FESA = Federal Endangered Species Act
GPS = Global Positioning System
GTP = Gaviota Tarplant
HCP = Habitat Conservation Plan
LE = Low Effect
LUP = Land Use Permit
LWEP = Lompoc Wind Energy Project
MT = Meteorological Tower
NEPA = National Environmental Policy Act
O&M = Operation and Maintenance
P&D = Santa Barbara County Planning and Development Department
PREG = Pacific Renewable Energy Generation LLC
Project = Geotechnical Boring Project
SHPO = State Historic Preservation Office
UEI = UltraSystems Environmental Inc.
USACE = United States Army Corps of Engineers
USFWS = United States Fish and Wildlife Service
USFWS = United States Fish and Wildlife Service
VAFB = Vandenberg Air Force Base
WGT = Wind Generation Tower

1.0 INTRODUCTION AND BACKGROUND

1.1 Overview/Background

This application for an Incidental Take Permit, pursuant to Section 10(A)(1)(B) of the Federal Endangered Species Act (FESA) and the enclosed Habitat Conservation Plan (HCP), is submitted by Pacific Renewable Energy Generation LLC (PREG, the Applicant), a wholly-owned independent subsidiary of Acciona Energy North America Corporation (Acciona). The HCP covers the Geotechnical Boring Project (Project) on the site of the proposed Lompoc Wind Energy Project (LWEP), located about 8-miles NNW of Point Conception, near the west end of the Santa Ynez Mountains, and 7 miles south of Lompoc, Santa Barbara County, California (Figure 1). The Santa Barbara County Board of Supervisors certified the Final Environmental Impact Report and approved the Conditional Use Permit and Variance for the LWEP in Santa Maria on February 10, 2009.

The boring activities will provide the data necessary to develop and complete the engineering plans for the LWEP. A Land Use Permit (LUP) cannot be issued by the County until the grading plans for the LWEP are finalized. The grading plans cannot be completed for the LWEP until the geotechnical boring data are made available. Impacts and mitigation measures associated with the LWEP would be supported and analyzed subsequently within appropriate procedures and documentation during the application process, including a Act section 7 consultation. The proposed Project for the borehole operations is qualified to be covered under a Low Effect HCP and is limited to specific boring activities. It is differentiated from the larger wind energy project, which will be referred to as "LWEP". The LWEP is a proposed project to install 37 wind turbines for the purpose of generating renewable energy for public distribution and use.

This HCP has been prepared pursuant to the requirements of Section 10(a) of the FESA, and is intended to provide the basis for issuance of a Section 10(a)(1)(B) Permit to PREG to authorize incidental take of the El Segundo Blue Butterfly (ESBB, *Euphilotis battoides allyni* Lepidoptera, Lycaenidae), a federally listed endangered species. The HCP also will, pursuant to the requirements of section 7, consider impacts on the Gaviota Tarplant (GTP, *Deinandra increscens* ssp. *villosa*), a federally listed endangered species that may be affected by the Project. Both the ESBB and the GTP have been identified as present during surveys on the Project site by species specialists where geotechnical boring is to occur. ESBB surveys were conducted by Sapphos Environmental in 2008 and by Ultrasystems Environmental in 2010. Numerous GTP surveys were conducted by Sapphos Environmental and by Ultrasystems Environmental (UEI) from 2002 through 2010.

The subsurface characteristics of soils and bedrocks must be known before foundations for Wind Generation Towers (WGT's), access and maintenance roads, electrical substations (ES), meteorological towers (MT's), and operations and maintenance buildings can be planned, engineered, and completed. To acquire these engineering data, a total of 43 bore sites are proposed to be drilled at the locations depicted on Figure 2.

These proposed 43 bores include:

- 21 borings are located at WGT sites;
- 4 borings are located at the Operation and Maintenance Facility;
- 5 borings are located at the ES;
- 12 borings are located at road and retaining wall locations; and
- 1 boring is located at a MT.

Geotechnical boring consists of drilling test cores; collecting disturbed and undisturbed soil samples; recovering core specimens; logging existing rock exposures; and performing test pit excavations to identify existing subsurface conditions. Soil samples are obtained with a

mechanical auger to a predetermined cut-off depth or to the top of bedrock. Rock cores are taken to the predetermined depth, according to engineering requirements. Depths of the bore holes for this Project vary from 5 feet (potential access roads) to 50 feet (potential wind turbine foundations). During the auguring process, the rotation and down-feed rate of the auger will be controlled so that individual soil types and rock horizons/deposits can be accurately noted. Soil and rock from previous borings will be removed from the auger prior to initiation of new borings to prevent mixing of materials and the possible masking of horizons.

1.2 Permit Duration

The boring activities would occur in the final quarter of 2010 (from October through December), but as early as possible to avoid the rainy season. The Project will take approximately one month to complete. On this hilly Project site, it can be difficult or impossible to conduct the geotechnical borings in rain or muddy conditions because these conditions would pose a safety hazard for the bore drill operators and equipment. Many of the soils in the Project area have high clay content that are unsafe to climb or traverse when wet. In a typical year, muddy conditions at this site tend to last from the first rains through to the new year. For these reasons, we wish to conduct the bores as early as possible, and are planning for early October 2010. If the geotechnical bores are not conducted this year, progress on LWEP would be delayed for an additional year. A permit duration of one (1) year is requested to cover a possible unavoidable weather delay in the permitted activities during the term of the incidental take permit.

1.3 Regulatory/Legal Framework for the HCP

This Section indicates the federal, state, and local environmental laws and ordinances that this project has considered in anticipation of receiving necessary permits from these agencies.

- FESA
- The Section 10(a)(1)(B) Process
HHCP Requirements and Guidelines
- National Environmental Policy Act
- National Historic Preservation Act
- California Endangered Species Act (CESA)
- California Environmental Quality Act (CEQA)
- Santa Barbara County Environmental Quality Assurance Program (EQAP)

The EQAP for the LWEP has been approved by the County of Santa Barbara Planning and Development Department (24 March 2010). This program and supporting documents is specifically tailored to the LWEP but is also relevant to the geotechnical boring Project and will, therefore, be used for both Project's. The EQAP is intended to mitigate or avoid significant effects on the environment during project construction and implementation (Public Resources Code §21081.6(a) and CEQA Guidelines §§ 15091(d) and 15097). Pursuant to CEQA, the program specifies detailed permit monitoring requirements. The monitoring program provides permitting and responsible agencies with the authority of requiring (a) document compliance with all the mitigation measures and regulatory requirements; (b) description of the procedures used to verify the implementation of the conditions and mitigation measures in the Conditional Use Permit; and (c) written records of compliance. County of Santa Barbara Planning and Development Department (P&D) staff are responsible for the implementation of mitigation monitoring as required in CEQA. The program provides a mechanism to ensure compliance with conditions developed through the CEQA process, applicants proposed conditions, and agency permit conditions.

1.4 HCP Area

The HCP area is shown in Figure 1 and is located in Tranquillon Mountain and Lompoc Hills USGS 7.5-minute Topographic Quadrangles. The Project site is bounded by Vandenberg Air Force Base (VAFB) on three sides. The Project area and various features within the Project site have been surveyed by Blake Land Surveys in Buellton, California. The Project property includes 1,631 acres of which the proposed disturbance area is 0.96 acres. The Coast Buckwheat restoration sites (as shown on Figure 4) include 75.40 acres in which 536 Coast Buckwheat plants will be installed. The Project site, including both the disturbance areas and the identified Coast Buckwheat restoration sites totals 76.36 acres. The Project includes 43 boreholes where future WGT's will be located, mainly along the southern ridges of the Project site. The turbine layout is based on analysis of topographic, meteorological, and geotechnical modeling by PREG. The precise locations of the boreholes are subject to further, minor adjustments during the drilling activity, based on the maximum feasible protection of the ESSB habitat.

1.5 Species to be Covered by Permit

El Segundo Blue Butterfly (*Euphilotes battoides allyni*: Lepidoptera, Lycaenidae)

1.5.1 El Segundo Blue Butterfly

The ESBB (*Euphilotes battoides allyni*) was listed as an endangered species in 1976 by the U.S. Fish and Wildlife Service (41 Federal Register 22041). Throughout much of its geographic range, the primary threat to the butterfly is loss of habitat by urbanization, mining and agriculture. Individuals of the butterfly were first recorded from the Project area in 2005 (DOD 2007), and have been recorded in several locations on VAFB. In 2010, Dr. Richard Arnold observed the species within the Project vicinity in approximately 60 acres of habitat (pers comm., 2010).

1.6 Other Introductory or Background Topics

1.6.1 Gaviota Tarplant

A GTP Mitigation Plan was prepared to offset temporary impacts on GTP that would result from the Project. The GTP was listed as Endangered by the California Department of Fish and Game in 1990 and by the U.S. Fish and Wildlife Service (USFWS) in 2000. Impacts associated with the boring activities will be short-term temporary impacts.

After September most of the GTP seeds, if not all, will have dropped from post flowering annual plants and crushing plants without seeds would have a less adverse affect on the seed bank than if done earlier. Eighteen (18) bore sites are located within GTP habitat. Geotechnical boring at each site requires the use of one drill rig with mounted mechanical augur, two support vehicles, and approximately 4 personnel. Temporary GTP disturbances include exposure to: (1) tracked vehicles; (2) vehicles with rubber tread tires; (3) pedestrian trampling; and (4) the drilling of an 8-inch wide borehole.

Short-term temporary impacts on GTP for the boring activities are 0.64 acres and will be mitigated in accordance with specifications outlined within the GTP Mitigation Plan including avoidance, topsoil salvaging and replacement, and the enhancement 0.49 acre of GTP habitat.

2.0 PROJECT DESCRIPTION/ACTIVITIES COVERED BY PERMIT

2.1 Project Description

A total of 43 geotechnical boring sites need to be accessed and bored to acquire soil samples. Geotechnical data collected from the soil bores are critical to designing foundations for WGT's and other components, and are necessary to fully design the proposed LWEP. The geotechnical bores are urgently needed this year because progress in engineering the LWEP would be delayed for an additional year, which may threaten LWEP with elimination. It is intended that this application, its attachments and enclosures, and any resulting HCP and Take Permit, will be limited solely to the boring activities being undertaken to complete engineering for the LWEP. The impacts and mitigation measures associated with the LWEP will be addressed in a subsequent application (Section 7 or HCP) with appropriate NEPA documentation. In this request for a Section 10(a) Take Permit, we intend to limit, differentiate, and define the "Project" as only the specific boring activities for which this Take Permit is being sought, while the larger wind energy project as a whole, and for which another, separate request for a Take Permit will be sought, will be referred to as "LWEP".

Project Schedule

The boring activities would occur in the final quarter of 2010 (from October through December) and as early as possible. The Project will take approximately one month to complete. Because the project cannot be completed safely during the rainy season, the work needs to be permitted and completed before the rains return this winter.

Boring Sites

The subsurface characteristics of soils and bedrocks must be known before foundations for wind towers, access and maintenance roads, electrical substations, meteorological towers, and operations and maintenance buildings can be planned, engineered, and completed. To acquire these engineering data, a total of 43 bore sites need to be drilled during this project at proposed locations depicted on Figure 2.

These proposed 43 bores include:

- 21 geotechnical borings are located at Wind Generation Tower (WGT) sites;
- 4 borings are located at the Operation and Maintenance Facility;
- 5 borings are located at the Electrical Substation;
- 12 borings are located at road and retaining wall locations; and
- 1 bore site is located at a Meteorological Tower.

Geotechnical boring consists of drilling test cores; collecting disturbed and undisturbed soil samples; recovering core specimens; logging existing rock exposures; and performing test pit excavations to identify existing subsurface conditions. Soil samples are obtained with a mechanical augur to a predetermined cut-off depth or to the top of bedrock. Rock cores are taken to the predetermined depth, according to engineering requirements. Depths of the bore holes for this Project vary from 5 feet (potential access roads) to 50 feet (potential wind turbine foundations). During the auguring process, the rotation and down-feed rate of the augur will be controlled so that individual soil types and rock horizons/deposits can be accurately noted. Soil and rock from previous borings will be removed from the augur prior to initiation of new borings to prevent mixing of materials and the possible masking of horizons.

Construction Equipment and Crews

Three construction vehicles are used at each bore site. These vehicles include a rig that carries the drill, the vehicle that carries the soil cylinders; and the vehicle that carries the soil samples. Usually there will be three or four construction crew people to drive and operate the construction equipment and at least one (and sometimes two) construction supervisors at each bore site. A biological monitor will also be present at each bore site before and during the borehole operations. Each boring site, normally, is begun and completed the same day. Up to four sites may be drilled each day by one drill crew and one bore site can usually be completed within 3 hours.

Access to Bore Sites

Existing paved and dirt ranch roads on the Project will be used to come as close as possible to each bore site without having any impact on the adjacent habitat. The borehole access routes were surveyed by UltraSystems Environmental Inc. biologists (Joanna Kipper and Paul Brenner) on July 14 and 15, 2010 to determine the path that best avoids or minimizes impacts (i.e., crushing by vehicles) on the ESBB habitat (minimization efforts are described in detail below). These routes were mapped by Blake Land Surveys, Inc. that utilized Ashtech's survey-grade GPS receivers with a Z-Max rover and a Z-Extreme base. This GPS system is accurate to within plus or minus one centimeter. In August 2010, Entomological Consulting Services, Ltd. (Richard Arnold), surveyed and mapped the access routes and proposed facility locations (within 25 ft) for the presence of Coast Buckwheat), the obligatory foodplant of the ESBB.

2.2 Activities Covered by Permit

The impacts associated with the geotechnical borings consist of temporary impacts. Disturbances to soils, topography, and the ESBB habitat, will be avoided or minimized at each borehole site by the carefully pre-planned positioning of the boring vehicles, as shown in Figure 3. Contours and soils will be returned to their pre-existing condition. Consequently, there are no long-term impacts expected or associated with this Project.

A 100 ft to 1 in map is shown for each of the 20 bore sites that are located in areas within 100 ft of Coast Buckwheat habitat that may support ESBB (Table 1 and Figure 3). These maps depict the proposed access route and the bore locations, and identify the different types of temporary impacts associated with the boring activity. Table 1 below identifies key aspects of each of the bore sites located in areas known to support ESBB habitat. In subsequent sections the text that follows describes relevant details at each of these 20 bore sites.

**Table 1: Bore Holes Located in Areas with ESBB Habitat (Coast Buckwheat)
 Mapped Within 100 ft of Borehole (20 Locations)**

Bore Hole Number (as Depicted on Figure 2)	Type of Infrastructure Associated with Bore Hole	Driven with Tires Only	Driven with Tracked Vehicle	Map Number on Figures 4 and 5 (100 ft to 1 in)
A1	WTG		Yes	3A
A9	WTG		Yes	3B
A10	WTG		Yes	3B
A14	WTG		Yes	3C
A18	WTG	Yes		3H
A19	WTG	Yes		3H
A25	WTG		Yes	3G
E1	WTG		Yes	3D
E2	RW		Yes	3E
E3	RW		Yes	3F
R4	AR		Yes	3E
R5	AR	Yes		3I & 3J
B1, B2, B4	ES	Yes		3I
B6, B7, B8, B9	O&M	Yes		3J
R8	WTG		Yes	3D
WGT = Wind Generation Tower (Bore Holes 8 Inches Wide and 50 Feet Deep) O&M = Operations and Maintenance Facility (Bore Holes 8 Inches Wide and 20 Feet Deep). AR = Access Road (Bore Holes 8 Inches Wide and 5 Feet Deep). RW = Retaining Wall (Bore Holes 8 Inches Wide and 30 Feet Deep). ES = Electrical Substation (Bore Holes 8 Inches Wide and 20 Feet Deep).				

3.0 ENVIRONMENTAL SETTING / BIOLOGICAL RESOURCES

3.1 Environmental Setting

The site is located about 8-miles NNW of Point Conception, near the west end of the Santa Ynez Mountains, and where the California coastline turns eastward. It is a semi-arid region where warm and cold ocean currents mix and where distributional ranges of a number of northern and southern plant species overlap. A high rate of biological endemism characterizes this region of varied topography, geology, and unusual soils.

The EIR prepared for the LWEP discusses numerous environmental and biological resources present on the leased lands entitled by the CUP for the wind farm project. The resource information in the EIR applies directly to the current borehole Project. The EIR was approved for three phases of LWEP development. The current Project encompasses only the lands that are designated as Phase I of the LWEP. The following discussion, however, is based largely upon the information in the EIR. The botanist producing most of the botanical information in the EIR and in many subsequent documents (Kathy Rindlaub) is currently a Project advisor, particularly for the federally listed GTP, and locally important *Horkelia* found on the project site. Entomological Consulting Services (Dr. Richard Arnold) also serves as the Project advisor for the federally listed ESBB, and for the Coast Buckwheat, which is the obligatory food plant for the ESBB.

3.1.1 Climate

The local climate is unique to the Southern Central Coast of California. Prevailing northwesterly winds frequently blow across the ridge systems. On calmer days, particularly in summer, a thick marine layer often covers the entire vicinity around Pt. Arguello and Tranquillon Mountain. Data reported in Keil and Holland (1998) state the average annual rainfall is 20-inches on the high elevations of south VAFB, which surrounds three sides of the site. Dense fog, frequent in summer months, condenses on vegetation and rains onto the ground beneath. This fog drip ameliorates effects of the summer drought and increases effective precipitation. Average annual maximum and minimum temperatures in the area are in the high 60s and low 40s, respectively, with only a few days or nights each year that reach into the 100s or drop to freezing (Keil and Holland 1998).

3.1.2 Topography / Geology

The project area is located within the Santa Ynez Mountain Range, west of the Lompoc Hills and bounded on the north by the Lompoc Valley. Primary physiographic features in the vicinity of the project site include mountains, hills, valleys, mesas, and terraces.

Soil Types in the project area range in texture from gently-sloped eroded clays to steeply-sloped rock outcrops. The wide range of rock types in the project area, their age, and physical characteristics allow for development of a variety of soils. Soils mapped include Gaviota Sandy Loams, Santa Lucia Shaley Loam, Loamy and Claypan San Andreas/Tierra Complex Soils, Los Osos Clay Loam, and Diablo Clay (USDA, 1981).

Sandy loams are presumably formed from erosion of Gaviota-Sacate, Matilija, and Vaqueros Sandstones, and clay soils from the Monterey and Cozy Dell Shales. Both shale and sandstone rock outcrops occur on the site. Loams and clays are developed on the more mature, gently sloping areas. Rock outcrops are less eroded consisting of more resistant rocks such as Tranquillon Volcanics and well cemented/consolidated sandstones, siltstones, and cherts.

Metamorphic rocks are exposed on Tranquillon Ridge beyond the western end of the project site, and in Sloans Canyon, which lies immediately to the north. These rocks are adjacent to marine sedimentary formations that continue eastward, forming the Santa Ynez Mountains. The Lompoc Hills, with their diatomite deposits, rise northeast of the project site to fill the gap between the Pleistocene dune sheets to the north and the east-west trending Santa Ynez Mountains. The site is underlain by marine shale and sandstone formations with patches of old conglomerates and recent landslide debris. Rock outcrops along the central section of the project site are composed mostly of marine Gaviota-Sacate bedded sandstone, bordered on the east and south by outcrops of Monterey Shale (Dibblee, 1988).

3.1.3 Hydrology/Streams, Rivers, Drainages

The project site is located approximately 3 miles east of the Pacific Ocean in both the South Coast and The Santa Ynez River hydrologic units. Honda, Espada, and San Miguelito Creeks are the three drainage features that occur within the project area. Several unnamed intermittent streams are present within the LWEF site. A number of isolated seeps and springs also scattered along hillsides and flatlands throughout the project site, forming variable sized sinks and drainage features. Most of these seeps contain non-potable water due to an elevated saline content. A few low-producing wells provide ranchers with a minimal amount of fresh water supply for domestic use and cattle grazing operations.

No California Department of Fish and Game (CDFG) or US Army Corp of Engineers (USACOE) jurisdictional waters will be affected by the boring activities.

3.1.4 Vegetation

Vegetation within the project action areas includes Annual Grassland, Native Grassland, Central Coast Scrub, and Mosaic (Coastal Scrub - Grassland Mix). The following descriptions follow Holland's (1986) vegetation classification system. Most of the exploratory boring will occur in grazed annual grassland habitat.

3.1.4.1 Non-native Annual Grassland

Non-Native Annual Grassland is the most widespread vegetation community within the project site. Annual grassland includes a high frequency of annual non-native plant species. Common non-native annuals include Wild Oats (*Avena* spp.), introduced brome grasses (*Brome* spp.), Foxtail Barley (*Hordeum leporinum*), Ryegrass (*Lolium* sp.), Milk Thistle (*Silybum marianum*), Bur Clover (*Medicago polymorpha*), Storksbill (*Erodium botrys*), and Crete Weed (*Hedypnois cretica*). Annual grassland occurs on gentler to moderately steep slopes on a variety of soil types from dark clay to sandy loam. Native annuals observed low frequency include Silver Puffs (*Uropappus*), Tidy Tips (*Layia platyglossa*), Goldfields (*Lasthenia* spp.), Lotus (*Lotus* spp.), and the Federal and Stated Endangered Gaviota Tarplant (*Deinandra* [*Hemizonia*] *increscens villosa*). Low statured shrubs such as Coast Golden Bush (*Isocoma menziesii*), Cudweed Aster (*Lessingia filaginifolia*), and Coyote Brush (*Baccharis pilularis*) occur in low frequency. Wind and grazing likely control shrub stature.

3.1.4.2 Central Coast Scrub

Central Coastal Scrub is composed of both summer deciduous and evergreen shrubs and has a higher frequency of native vegetation as opposed to annual grassland habitats. Dominant native shrub species include California Sagebrush (*Artemisa californica*), Black Sage (*Salvia mellifera*), Coast Buckwheat, Coyote Brush, Monkeyflower (*Mimulus aurantiacus*), and Coffee Berry (*Rhamnus californica*). Coast Live Oaks (*Quercus agrifolia*) and Tanbark Oak (*Lithocarpus*

densiflorus) occur in low densities. Coastal scrub in the project area is most common on the steeper sites where cattle are found less frequently. Grazing likely limits the extent of scrub vegetation on gentler terrain, although cattle do create access trails through the scrub vegetation. No oak trees will be affected by boring activities.

3.1.4.3 Native Perennial Grassland

Scattered patches of native perennial grassland are present within Annual Grassland and Central Coast Scrub vegetation. Native grasses include Needle Grass (*Nassella* spp.), Creeping Rye (*Leymus triticoides*), and Meadow Barley (*Hordeum brachyantherum*). Most of the native grassland patches observed on site are highly degraded due to over grazing. However, a few higher quality patches are present, primarily along the steeper slopes where cattle are found less frequently.

3.1.5 Wildlife

Numerous bird species utilize annual grassland and Coastal Scrub habitat for foraging including Golden Eagle (*Aquila chrysaetos*), Grasshopper Sparrows (*Ammodramus savannarum*), White-crowned Sparrows (*Zonotrichia leucophrys*), and Red-tailed Hawks (*Buteo jamaicensis*). Ground nesting birds such as Horned Larks (*Eremophila alpestris*) and Western Meadowlarks (*Sturnella neglecta*) utilized the annual grassland habitat during spring and summer months for breeding.

Mammals reported in the Project EIR to be present on the project site include California Ground Squirrel (*Otospermophilus beecheyi*), Botta's Pocket Gopher (*Thomomys bottae*) Gray Fox (*Urocyon cinereoargenteus*), Coyote (*Canis latrans*), American Badger (*Taxidea taxus*), Mule Deer (*Odocoileus hemionus*), Mountain Lion (*Felis concolor*) and bats including California Myotis (*Myotis californicus*) and the Mexican Free-tailed Bat (*Tadarida brasiliensis*).

The federally Endangered El Segundo Blue Butterfly (ESBB) is also known to occur within the project area (see section 3.2.1 below).

Because boring activities are scheduled to occur in fall (outside of the bird nesting season - February 1 to August 31), nesting birds will be avoided. Regardless of time of year, a biological monitor will be present at the borehole sites during boring activities to assist in avoidance and minimization measures for sensitive species within the project area, such as the locally rare American Badger, San Diego Desert Woodrat (*Neotoma lepida intermedia*), (a California Species of Special Concern CSC), Two-striped Garter Snake (*Thamnophis hammondi*) (CSC), and nesting birds (Olsen, 2006).

3.1.6 Existing Land Use

The project site is located in an unincorporated portion of Santa Barbara County on rural, agricultural land used primarily for grazing cattle. Agricultural fields used for dry farming are also present on the western side of the project site. Because groundwater resources are limited, no irrigated agriculture occurs within the project site. Nine single-family residences or mobile homes are located within the project site. Most of the boring sites are located within relatively flat, disturbed annual grassland on, or closely adjacent to, maintained dirt roads, which are actively used by the landowners. Coastal Scrub vegetation occurs along steeper slopes where cattle are found less frequently. Limited off-road vehicle use and recreational hunting also occurs throughout the project site.

Vandenberg Air Force Base adjoins the site on the south and west. The Vandenberg Telemetry Receiving Station is located near the southern perimeter of the project site (at the terminus of

Station Road). The project is also within existing space launch hazard corridors (paved Sudden and San Miguelito Canyon Roads) that are under some control by VAFB.

3.2 Species of Concern in the Plan Area

3.2.1 Wildlife Species of Concern

The El Segundo Blue Butterfly (ESBB) is covered by this HCP, and occurs in scattered, limited areas within the plan area.

Covered Wildlife Species:

El Segundo Blue Butterfly (*Euphilotes battoides allyni*: Lepidoptera, Lycaenidae)

Conservation Status

The ESBB (*Euphilotes battoides allyni*) was listed as an endangered species in 1976 by the U.S. Fish and Wildlife Service (41 Federal Register 22041). Throughout much of its geographic range, the primary threat to the butterfly is loss of habitat via urbanization, mining and agriculture. Alteration of habitat due to planting of non-native ground covers (*Carpobrotus edulis* and *Mesembryanthemum* sp.) to stabilize sand dunes, or forage grasses for cattle grazing (notably, *Ehrharta calycina*), and invasive landscape or other non-native plants, have also threatened the butterfly by out-competing its food plant. Critical habitat was proposed (USFWS 1976b) but never finalized. A recovery plan, which describes conservation measures that should be achieved to down-list or de-list the ESBB, was published by the USFWS in 1998 (48 Federal Register 43098).

The state of California's Fish and Game Code does not currently allow insects to be recognized as endangered or threatened species. Nonetheless, the ESBB satisfies the definition of a rare species under the California Environmental Quality Act (CEQA); thus it must be addressed during the environmental review process of projects under CEQA.

Geographic Distribution

Historically, the ESBB was thought to be endemic to the El Segundo Dunes, which extended from the northern end of the Palos Verdes Peninsula to Playa del Rey (Arnold 1983, Mattoni 1990). Today the ESBB is known from a group of populations in Los Angeles County and another group in Santa Barbara County, California. The ESBB was originally described from the Chevron refinery in El Segundo by Shields (1975). At the time of its designation as an endangered species in 1976, it was known only from Chevron and another remnant of the El Segundo Dunes at the Los Angeles International Airport (USFWS 1976a). In the early 1980's it was discovered at Malaga Cove and other widely scattered coastal bluff locations on the Palos Verdes Peninsula (Arnold, personal observation). During the late 1980's a single ESBB adult was reported from the Ballona Creek area at the northern terminus of the El Segundo sand dunes, but today this site is no longer occupied (Arnold, personal observation). Formerly degraded dune habitat at Miramar Park and Beach in Redondo Beach and Dockweiler State Beach in Los Angeles were revegetated and the ESBB has been observed in these restoration sites annually since 2007 (Arnold, personal observation). All of the previously mentioned locations are in Los Angeles County, California.

More recent discoveries of the ESBB have all occurred in Santa Barbara County, California. In 2004 the ESBB was discovered at Vandenberg Air Force Base (VAFB). Surveys conducted at VAFB between 2004 and 2010 found the butterfly at various locations. During 2008, 2009, and 2010, the ESBB was also found at several additional locations in the hills surrounding Lompoc (Arnold, personal communication).

Taxonomy

The ESBB is one of 11 described subspecies of *Euphilotes battoides* (Behr), which is widely distributed throughout western North America (Pratt and Emmel 1998; Pratt and Emmel 2008), and is commonly known as the Square-spotted Blue butterfly. Like all *Euphilotes*, subspecific taxa of *E. battoides* are closely associated with their larval food plants and primary adult nectar plants, species of Coast Buckwheat (*Eriogonum*: Polygonaceae), a genus of approximately 200 species (Kartesz 1994) that occur primarily in western North America in habitats ranging from the ocean shore to mountain peaks. Most *Euphilotes* populations only use a single Coast Buckwheat species as their food plant even when other Coast Buckwheat species are also present.

Prior to 1975, the species *battoides* was a member of the genus *Philotes*. At that time, Shields (1975) realigned several genera of blues, resulting in the placement of the species *battoides* in the genus *Shijimiaeoides*. Thus, the scientific name of the ESBB, when it was first recognized as an endangered species (USFWS 1976a), was *Shijimiaeoides battoides allyni*. Mattoni (1977) subsequently made a number of nomenclatural rearrangements in several genera of the blue butterfly tribe Scolitandini, which resulted in the placement of *battoides* in the genus *Euphilotes*. Shields and Reveal (1988) and Mattoni (1990) also treated *allyni* as a subspecies of *Euphilotes bernardino*, but today the ESBB is now known scientifically by the name, *Euphilotes battoides allyni*; however, all of these scientific names may be encountered in the literature.

Description

Wingspans of adult ESBBs range from 17 to 32 mm. In males, the dorsal wings are characterized by a brilliant indigo-blue color, while in females they are brownish-grey. Ventral wings of both sexes have a light grey background color, bold black maculations, and the wing margins have a checkered pattern. The submarginal area of the hind wing has a bold orange aurora. This orange aurora is also prominent on the dorsal hindwing of females, but is faint or entirely absent on the dorsal hindwing of males.

Larvae are onisciform and exhibit color polymorphism, ranging from creamy white to pale yellow or rose with white or yellow dashes and chevrons. This color polymorphism matches the progression of colors exhibited by the flowerheads of the ESBB's food plant, from bud to seed dispersal stages.

Habitat Characteristics

At the Lompoc Wind Energy Project site ESBBs were associated with Central Coastal Scrub and Grassland-Central Coastal Scrub Mosaic. This scrub plant community is common on steeper slopes, where the intensity of cattle grazing is less. The winds that routinely blow across these hill tops also limits shrub stature. Dominant plant species include: *Salvia mellifera*, *Artemisia californica*, *Baccharis pilularis*, *Toxicodendron diversilobum*, and *Rhanmus californica*. On north-facing slopes, *Fragaria vesca*, *Pteridium aquilinum*, *Galium* spp, and *M. aurantiacus* are also common.

Elsewhere in the greater Lompoc area, ESBB populations have been observed in Central Coastal Scrub and Burton Mesa Chaparral communities, frequently on Monterey shale formations. At nearby VAFB, populations of the ESBB in the northern part of the base have generally been found in Coastal Dune Scrub habitat with varying degrees of *Ehrharta calycina* infestation. ESBBs were also observed along the ecotones of Coastal Dune Scrub and Central Coast Scrub and Coastal Dune scrub bordering Riparian habitats. In the southern part of VAFB, ESBB have been found in the mountains characterized by Central Coastal Scrub and Mixed Central Coastal Scrub-Grassland habitats at elevations that range from 320 to 603 m. These ESBB locations are dominated by *B. pilularis*, *A. californica*, and *M. aurantiacus*.

In the Los Angeles area, ESBB is generally found in association with Southern Foredune, Southern Foredune Scrub, and Valley Needlegrass Grassland habitats at remnants of the El Segundo Sand Dunes, which occur at the Los Angeles International Airport and the Chevron refinery in El Segundo as well as two recently restored dune areas at Dockweiler State Beach in the City of Los Angeles and Miramar Park and Beach in the City of Redondo Beach. The Malaga Cove and bluff area above Rat Beach (immediately north) is characterized by Southcoast Dune Scrub and Bluff Scrub plant communities. There *E. parvifolium* grows in the generally steep bluff portions of homeowners' yards. The USFWS (2003) approved a Safe Harbor Agreement to encourage private homeowners to undertake voluntary habitat restoration and enhancement activities to benefit the ESBB.

On the Palos Verdes Peninsula south of Malaga Cove, *E. parvifolium* is generally limited to the bluffs along the immediate coast, where it grows as part of the Coastal Bluff Scrub plant community at scattered locations as far east as the Smuggler's Cove-Portuguese Point area near the border of the communities of Rancho Palos Verdes and San Pedro. These are small sites with a few to several dozen food plants at each location.

Occurrences Within the Project Area

Dr. Richard Arnold observed 26 adults and 3 larvae in 25 locations on the LWEP leased lands in August 2008 (Sapphos Environmental, Inc. 2008). Additional surveys are being conducted during the ESBB's 2010 flight season. The distribution of Coast Buckwheat on the LWEP site is also being updated during its 2010 flowering period. Thus far, the ESBB has been observed on approximately 60 acres on the LWEP project site. The closest known occurrences for the ESBB occur on VAFB at Sudden Peak and its flanks, on portions of VAFB neighboring the known ESBB locations on LWEP. In addition, ESBB has been found at a few locations along Miguelito Road (Arnold, personal communication).

Life History

The ESBB is univoltine, i.e., it has only one generation per year. The adult emergence and seasonal activity period of mid-June to mid-September, is closely synchronized with the flowering period of *Eriogonum parvifolium*, the sole larval food plant and primary adult nectar plant (Arnold 1978, 1981, and 1983; Pratt and Ballmer 1993). Annual population monitoring since 1977 at the Chevron refinery in El Segundo indicates that the adult flight season is normally about 10 weeks in duration, but the starting and ending dates, peak date(s), and duration can vary by as much as a few weeks from year-to-year (Arnold, unpublished data).

Results of capture-recapture studies determined that individual adult males and females live a maximum of 12 days under field conditions (Arnold 1983 and 1986), although in the lab females lived an average of 16 days (Mattoni 1990). Both sexes spend the majority of their time on flowerheads of *Eriogonum parvifolium* (Arnold 1983 and 1986). There they perch, bask (i.e., thermoregulate), forage for nectar, search for mates, copulate, oviposit, and often die. Most adults are sedentary, with home ranges no more than a few hectares (Arnold 1983 and 1986); nonetheless, Arnold (1986) documented adult movements up to 2.24 km (Arnold 1986) and butterflies have naturally colonized aforementioned restoration sites.

Females lay eggs singly on the *E. parvifolium* flowers. Larvae hatch in about one week and feed in the flowerheads. There are 4 instars during the larval stage. Young larvae are concealed by the flowerheads and their cryptic colors as they feed on the buds and developing flower parts, while older larvae feed on the seeds. Larvae have honeydew-secreting glands and are myrmecophilous, which may provide some protection from parasites and predators. Upon maturing in about 3-4 weeks, the larvae pupate in the root zone within the soil or in the leaf litter at the base of the food plant, and much less frequently in the flowerheads. Pupae that form in the flowerheads later drop to the ground. Pupae remain in diapause until the following summer,

although rearing studies indicate that some pupae will hold over and emerge as adults in subsequent years (Pratt and Emmel 1993).

3.2.2 Plant Species Considered

The state and federally listed endangered Gaviota Tarplant (*Deinandra [Hemizonia] increscens villosa*) is present in scattered, limited areas within the project site. Surveys were conducted in 2008 (Sapphos Environmental) and 2010 (UltraSystems Environmental) to document the locations of GTP on the borehole sites. Subsequently, impacts on the GTP from the borehole project have been analyzed by the Applicant. An Incidental Take Permit has been prepared by the Applicant for submission to the California Department of Fish and Game, including a mitigation, restoration, and monitoring program pursuant to the California Fish and Game Code.

4.0 POTENTIAL BIOLOGICAL IMPACTS/TAKE ASSESSMENT

4.1 Direct Impacts

As described previously, the ESBB is the only Federally-listed wildlife species that may be affected by the proposed Project. This butterfly is obligatorily associated with its food plant, the Coast Buckwheat. This Coast Buckwheat is widely distributed in coastal California, including the Santa Barbara coastal area, VAFB, and on the Project site itself. Nevertheless, only a very small fraction of Coast Buckwheat is known to support the ESBB (DOD 2007).

With the existing presence of paved and dirt roads, the applicant can get very close to the bore sites without affecting listed species (ESBB and GTP) or their habitats (Coast Buckwheat). Consequently, the impacts on potential ESBB habitat are negligible. Dr. Arnold (2010) (local entomologist who is a specialist with this butterfly) suggests that the population of ESBB on the Project site represents less than approximately 1 percent of the total known populations of ESBB throughout the species' range. The total acreage of Coast Buckwheat currently mapped in the Project vicinity is 63.67 acres spread out in patches throughout the site (Figure 2). From the surveys conducted in 2010 by UltraSystems Environmental, a total of 268 Coast Buckwheat plants may be directly affected by the Project. The actual number will likely be less, depending upon how many may be crushed by the wheels or tracks of the drill rigs. Even if all the plants located in the Project's work areas were affected, the proposed activities would be limited to a small subset of the ESBB habitat (0.54 acres) on the project site, and to an even smaller subset of the ESBB population on the Project site. The area of Coast Buckwheat temporarily affected by the borehole Project is estimated to be less than 1 percent of the population on the Project site, according to Dr. Richard Arnold, who describes this level of impact as a "negligible" affect (personal communication). Furthermore, most of the affects on ESBB plants and habitat are associated with driving over the plants, many of which may not be disturbed. The root systems of many Coast Buckwheat plants will not be disturbed, and would likely stump-sprout during the next spring. Under this circumstance, there may be little to no adverse affect from driving over Coast Buckwheat since only the wheels or tracks of the drill rigs will be directly on the ground. Therefore, from this standpoint, implementation of the proposed geotechnical boring Project would result in negligible effects on ESBB habitat and ESBB populations.

Because the actual boring activities are limited in noise, duration, and ground disturbance, the amount of direct disturbances on biological resources for most boring sites are negligible; related only to being crushed by vehicle wheels and tracks or by foot traffic in the work area. Direct effects could include mortality of ESBB, non-sensitive subterranean wildlife (e.g., snakes and ground squirrels), mortality of perennial native vegetation (including Coast Buckwheat), disturbances of native seed banks (including GTP), and other disturbances of general biological resources. The larvae and pupae of the ESBB may be directly crushed by drilling equipment, drill crews, and environmental monitors. The extent of this potential impact would depend upon the actual number of Coast Buckwheat that are removed or crushed by the drill rigs. In its Biological Opinion for the Second Relocatable In-Flight Interceptor Communications System Data Terminal Project on VAFB (Department of Defense, Missile Defence Agency 2007), the USFWS assumed that the "average Coast Buckwheat contains about 300 flowerheads and may produce 30 ESBB adults." Generally, ESBB are not abundant anywhere they are observed, particularly in areas where Coast Buckwheat are in low densities (as is the case on the borehole project site as well as on VAFB). The USFWS concluded that Coast Buckwheat plants would provide up to 3 ESBB adults in the 20-acre site.

The remainder of this section describes and quantifies the anticipated impacts at each of the 17 bore sites that may affect ESBB habitat. The construction crews will keep boring equipment to the minimum area required, and the trips into ESBB habitat to the fewest possible.

The potential direct impacts related to Coast Buckwheat, and ESBB, are described in detail below.

4.1.1 Anticipated Take: Wildlife Species

The Project site was surveyed by Dr. Richard Arnold on July 22, 2010 and August 24, 2010 with RES and UEI Staff to conduct a survey to further map the distribution of Coast Buckwheat relative to the geotechnical boreholes. Previous Coast Buckwheat surveys identified the presence of Coast Buckwheat as polygons, but the number of plants were not recorded. The following are brief descriptions of the features at each borehole, and the sensitive biological resources that are present in each work area.

4.1.1.1 Anticipated Direct Impacts ESBB

As listed in Table 2, the boring activities at 8 bore sites are expected to result in direct affects to ESBB habitat (Coast Buckwheat). Each of the 8 bore sites within the area of anticipated effects on Coast Buckwheat are described below and is depicted in Figure 3. In addition, where ESBB pupae are in hibernation, duff and ground compaction by the drilling operations may prevent the newly emerged adults from burrowing their way up to the ground surface and to the host Coast Buckwheat plants.

Geotechnical Borehole A1: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB Habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy (Figure 3A). Any spoil piles will be placed downslope, if feasible. An access road of about 130 feet must be graded to the borehole from an existing dirt road.

Geotechnical Borehole A10: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy and this route is depicted on Figure 3B.

Geotechnical Boreholes A18 and A19: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB Habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy and this route is depicted on Figure 3H.

Boreholes A18 and A19 are located in a large area known to support ESBB habitat (UltraSystems Environmental 2010). A sighting of ESBB was recorded approximately 250 feet north of these boreholes in 2008. Because the terrain is relatively flat, these two sites will be accessed using vehicles with rubber tires only (Table 1). These two borehole sites will be accessed by an existing dirt road (Figure 3H). The effects associated with Bores A18 and A19 are listed in Tables 2 and 3. Twenty five Coast Buckwheat plants will be driven over with the construction vehicles, some of which will not be adversely affected. No grading will be required, and no water truck will be needed to provide dust control.

Geotechnical Bore A14: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy and this route is depicted on Figure 3C.

Borehole A14 is located in an area completely surrounded by high-quality Coast Buckwheat of varying sizes and ages. An ESBB was observed in this area in 2008. Because the terrain is relatively steep at the borehole sites, a tracked vehicle will be required (Table 1). Soil piles will be placed in areas that do not affect any Coast Buckwheat, if possible. This bore site will be accessed from an existing dirt road (Figure 3C), and the affect associated with Bores A14 is listed in Tables 2 and 3. No grading will be required, and no water truck will be necessary for dust control.

Geotechnical Bore A25: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy and this route is depicted on Figure 3G.

Borehole A25 is located in an area surrounded by patches of Coast Buckwheat within 100 feet of the borehole, but none of the plants are growing in the area that will be directly affected. This borehole site will be accessed from Sudden Road and an existing dirt road (Figure 3G), and the affect associated with Bore A25 is listed in Tables 2 and 3.

Geotechnical Bore E1: On July 15 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat. This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy. The site supports annual grassland, but no Coast Buckwheat is present. A large polygon of Coast Buckwheat was previously mapped to the west of the site, with some plants potentially within 100 feet of the borehole (Figure 3D). Several sightings of ESBB were recorded in this area in 2008. No grading will be required at this site, and no water truck will be required for dust control.

Borehole E1 is located on an existing dirt road (Figure 3D). Because the terrain is steep enough, this site will be accessed using tracked vehicles (Table 1). The affect associated with Borehole E1 is listed in Tables 2 and 3.

Geotechnical Borehole E2: On July 15 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat. This borehole is in an area surrounded by Coast Buckwheat (Figure 3E). Several ESBB were observed in this area in 2008. A tracked drill rig will be required (Table 1). The affect associated with drilling Bore E2 is listed in Tables 2 and 3.

Geotechnical Borehole E3: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy and this route is depicted on Figure 3F.

Borehole E3 is completely surrounded by a large stand of high-quality Coast Buckwheat. Several ESBB were observed in this area in 2008. Coast Buckwheat cannot be avoided at this site, and 213 plants will be affected by the earthwork here. Because the terrain is steep (this bore is located on the side of a ridgeline) this site will require a tracked vehicle (Table 1). This bore site will be accessed from an existing road on the ridgeline (Figure 3F). Affect associated with Bore E3 is listed in Tables 2 and 3.

Geotechnical Borehole R5: On July 15 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). The shortest route to Borehole R5 can be traversed by a rubber tired vehicle (Figures 3I and 3J).

A population of Coast Buckwheat is found about 80 feet to the east of this site along San Miguelito Canyon Road, and large polygons of Coast Buckwheat are located to the north and west of the site, where numerous observations of ESBB have been recorded. Because the terrain is relatively flat, this site will be accessed using vehicles with rubber tires only (Table 1). This bore site will be accessed via an existing dirt road (Figures 3I and 3J). The affect associated with Borehole R5 is listed in Tables 2 and 3. No grading will be required, and no water truck is necessary for dust control.

Geotechnical Bore R4: On July 14 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat (and would be safe for the bore drill operators and equipment). This borehole is on the side of a ridgeline near the border of VAFB. Several ESBB were recorded in this area in 2008.

Borehole R4 is located in a large area previously mapped to support ESBB habitat (Figure 3E). Because the terrain is relatively steep this site will be accessed using vehicles with tracks (Table 1). No grading will be required. This bore site will be accessed from an existing dirt road upon which the borehole will be drilled. The affect to GTP that is associated with Bore R11 is listed in Table 3.

Geotechnical Bores B1 through B5: On July 15 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat. This site is heavily grazed and trampled by cattle. However, while no Coast Buckwheat is mapped at the borehole locations, some plants are immediately adjacent to the work site, and access will swing around the site to avoid impacts on them. The site has been previously mapped with ESBB habitat in all directions around this site except to the southeast.

Bores B1, through B5 are located outside of areas known to support ESBB habitat; therefore no adverse affect is expected. Because the terrain is relatively flat, these boreholes will be accessed using vehicles with rubber tires only (Table 1). These bore sites will be accessed from an existing road that joins San Miguelito Canyon Road directly to the east (Figure 3I).

Geotechnical Bores R8: On July 15 and 22, 2010 UEI visited the Project site to determine the route that would affect the least ESBB habitat. This route was digitized by Blake Land Surveys, Inc. to within centimeter accuracy.

No Coast Buckwheat is present where the earthwork will occur, although a large polygon of Coast Buckwheat was previously mapped 100 feet to the west. Some Coast Buckwheat may be present within 100 feet of the borehole (Figure 3D). Several sightings of ESBB were recorded in this area in 2008. No grading will be required at this site, and no water truck will be required for dust control.

**Table 2: Temporary Direct Effects on ESBB Habitat
 In 8 Locations (No Permanent Impacts)**

	By Area of Mapped ESBB Habitat *	By Number of Counted Coast Buckwheat **	
Bore Hole Number	<i>Area of Mapped Coast Buckwheat Habitat Affected</i>	Number of Coast	Number of Coast

	<i>Within Borehole Access Roads</i>	Buckwheat Plants Affected on Borehole Access Roads	Buckwheat Affected in Temporary Work Areas Around Borehole During Drilling (10 ft Diameter)
A10	0.02 acres	17	
A14	0.07 acres	31	2
A18	0.09 acres	0	
A19	0.15 acres	32	
A25	0.04 acres	21	0
E2	0.07 acres	16	0
E3	0.09 acres	147	2
R5	0.004 acres	0	
Total	0.54 acres	264 plants	4 plants
	Total Area = 0.54 Acres	Total Number of Plants = 268	
* Area is calculated from polygons <u>previously mapped</u> in the EIR, but where individual plants were not counted. This area may or may not be occupied by ESBB. ** Plants mapped within area of direct affect by Dr. Arnold (26 August 2010) using GPS UTM coordinates. These plants may or may not be occupied by ESBB.			

4.1.1.2 Indirect Impacts on ESBB

Potential Noise Affects:

While noises made by construction equipment and workers in close proximity to adults during their flight season could affect the butterflies mating behaviors, indirect noises affects, if any, on adult behaviors are unlikely to occur or be significant, particularly in 2010 because the borehole operations will occur after the adult flight season is finished. The late Spring and early Summer weather conditions in 2010 provided a more narrow flight season for adults than is generally considered to be normal (Arnold, pers. comm. 2010).

4.2 Cumulative Impacts

Impacts of the boring Project on the long term persistence of the ESBB are low because of the limited size of the boring operations and the care taken by the applicant to avoid and minimize impacts on the Coast Buckwheat. Avoidance and minimization was done by placing access roads outside of identified Coast Buckwheat populations and limiting grading areas to the smallest extent feasible. The loss of ESBB habitat is not expected to affect the range-wide survival of the ESBB and its habitat due to their occurrence in nearby areas of VAFB, and several other populations in the Santa Barbara area. The ESBB also persists in the Los Angeles area population. The foodplant of the ESBB is found in abundance throughout coastal California, and the ESBB may ultimately colonize other areas where sandy soils support Coast Buckwheat.

Development of the Project's leased lands will undergo further consultation with federal agencies, including the USFWS. Future development activities on VAFB are not publically disclosed, but are not expected to be substantial. The County of Santa Barbara County EQAP has specified that a

Decommissioning and Abandonment Plan be prepared for a 30 year project life (2040). The plan will be updated each five years. The plan specifies that the land contours and vegetation be returned to their original conditions when the project is terminated. Because the Coast Buckwheat persists throughout the Santa Barbara region and in many patches on the Project site, the ESBB may reoccupy any areas that would have been taken by the project's relatively small footprint on the site.

In summary, the direct impacts would be associated with running over plants, not boring activities, as the sites for boring will avoid the host plants. With the existing presence of paved and dirt roads, the applicant can get very close to the bore sites without affecting listed species (ESBB and GTP) or their habitats (Coast Buckwheat). Consequently, the impacts on potential ESBB habitat are negligible. Dr. Arnold (2010) (local entomologist who is a specialist with this butterfly) suggests that the population of ESBB on the Project site represents less than approximately 1 percent of the total known populations of ESBB throughout the species' range.

No indirect impacts on ESBB due to noise or dust are associated with the proposed Geotechnical Boring Project because grading has been eliminated from the project description and activities will occur outside of the adult flight season.

In regards to cumulative impacts, development of the Project's leased lands will undergo further consultation with federal agencies, including the USFWS. Future development activities on VAFB are not publically disclosed, but are not expected to be substantial. Impacts from the boring Project on the long term persistence of ESBB are expected to be low due to the limited size of the boring operations and the care taken by the applicant to avoid and minimize impacts on the ESBB by placing access roads appropriately and limiting grading areas to the smallest extent feasible. The loss of ESBB habitat is not expected to affect the range-wide survival of the plant due to their occurrence in nearby areas of VAFB, and several other populations in the Gaviota and Santa Barbara areas. When the Project is terminated, the seed bank of the ESBB will likely persist in the top soils throughout the Project site, and will recolonize any land taken by the relatively small footprint of the Project on the site.

5.0 CONSERVATION PROGRAM/MEASURES TO MINIMIZE AND MITIGATE FOR IMPACTS

5.1 Biological Goals

The following section describes the broad guiding principles and biological goals for the covered species and their habitats by the implementation of the conservation program. They provide the rationale behind the minimization and mitigation strategies that have been implemented in the Project planning and in preparing this HCP.

El Segundo Blue Butterfly (ESBB) Biological Goals

These following are the overarching goals for conservation of the ESBB and its habitat.

Goal #1: Minimize mortality of the ESBB and damage to its habitat and food plant during preparation and implementation of the boring Project.

Objective 1a: To the maximum extent practical, locate access routes, vehicle parking, and materials laydown areas in portions of the Project site that do not support habitat for the ESBB (or Gaviota Tarplant).

Objective 1b: At boring site locations where disturbance of Coast Buckwheat is unavoidable, select access routes and work areas that reduce the amount of impact on the ESBB's food plant, Coast Buckwheat (and Gaviota Tarplant).

Goal #2: Mitigate unavoidable adverse effects on the ESBB from the boring Project, including loss of habitat, unless Goal #3 is implemented.

Objective 2a: Revegetate on-site areas with plants indigenous to the Central Coast Scrub, including Coast Buckwheat.

Objective 2b: Restore degraded habitat by controlling invasive plants, revegetating with native plants, and monitor to ensure that success criteria are achieved.

Goal #3: Unless #2 is implemented, contribute to regional conservation of the ESBB population and its habitat within the HCP area by improving/restoring habitat that has been adversely affected by past land use activities and preventing future adverse effects to the compensation lands.

5.1.1 Biological Objectives and Performance Success Criteria

Eriogonum parvifolium is a perennial shrub that may live 30 years or more. However, during its first few years of life, most growth occurs in the root system and the plant produces few if any flowers, which provides little or no benefit to the ESBB.

For this reason, a 10-year monitoring program (monitoring every other year) is necessary to determine if the restoration of Coast Buckwheat has reached a growth stage appropriate to benefit the ESBB. At the end of this 10-year period, Coast Buckwheat should comprise a minimum of 15% of the restored Central Coastal Scrub and Grassland habitats at the mitigation site(s) and 75% of these Coast Buckweats should be mature individuals.

5.2 Measures Taken by the Project to Minimize Impacts on El Segundo Blue Butterfly

The flight period of the adult ESBB is generally from mid-June to mid-September. The boring operations will avoid this critical flight season by conducting the boring activities during October. While the larval and pupal phases of the ESBB are living in the soil, duff, and Coast Buckwheat plants during the entire year, construction activities conducted from mid-September to mid-June would be less adverse on the reproductive activities of the ESBB.

Avoidance Protocols Utilized to Determine the Access Routes

In July 2010, prior to the boring activities, the Applicant, UltraSystems, and the Project Engineer (RES Americas, Inc.) participated in a process to identify boring access routes that either avoid completely or minimize the amount of ESBB habitat (and GTP) affected and those routes that are safe for the construction contractor to implement. This was done by having RES prepare boring access routes based upon topography and other geographic considerations. Subsequently, UltraSystems would evaluate these plans and suggest alternate routes that would avoid or minimize impacts on ESBB Habitat and GTP. This process was repeated several times. Following this process, RES and UltraSystems met on the Project site to field verify the most beneficial routes that would affect the least ESBB habitat and GTP, and would be safe to implement. These routes were depicted on maps which are included in this HCP.

Avoidance Protocols on the Day of Boring

The following monitoring and avoidance protocols will be initiated pursuant to the EQAP. Prior to the construction crews arriving at a boring site, County approved biological monitors will survey the access route and the bore hole site (Figure 3). The monitors will survey for Coast Buckwheat (and GTP) and sensitive wildlife within a 300 foot radius of the bore site (pursuant to the EQAP requirements). Under the supervision of the biological monitors, the drill rig and other vehicles will be routed in order to avoid ESBB habitat to the maximum extent possible (and other sensitive resources). The monitors are approved by the County and at least one County person is overseeing the biological monitors (John Storrer, Tom Olson, and Peter Gaede).

Minimization of Ground Disturbance

Where feasible, parking, lay down, storage areas, and other sites of surface disturbance shall be located in previously disturbed areas or in annual grassland (but not in areas known to support ESSB or Gaviota Tarplant habitat). The Project Biologist shall conduct pre-construction surveys of staging area(s) prior to initial ground disturbance. Construction material and supplies used during construction shall be disposed offsite. Trash, debris, loose fill, and deleterious material shall also be removed and disposed appropriately off-site.

El Segundo Blue Butterfly Avoidance and Minimization

Dry Season

All boring-related activities will be completed during the dry season, usually April 15 to November 15, but some variation in this timing may occur in particular years. However, within this period, boring activities will not occur during the adult flight season of the ESBB, generally about June 15 to September 15, to avoid disrupting the reproductive behaviors of the ESBB.

Relocation of ESBB Life Stages

If any living life stages of the ESBB are encountered during the boring Project they will be relocated to adjacent habitat by an Applicant's USFWS-approved biologist. If the work crew find

any life stages of the ESBB in the boring project area, work will be halted in that location until the USFWS-approved biologist has relocated it to a safe location.

Delineate Boundaries of All Impact Areas

The USFWS-approved biologist will ensure that the boundaries of each boring work site, parking areas, equipment and materials areas are clearly marked with plastic barrier markers prior to commencement of any work and throughout the duration of the boring activities. Drill rig access routes will be delineated either with construction fencing or pin flags at locations where Coast Buckwheat is present. Signs will be erected to notify workers to stay out of sensitive areas.

Staging

All construction vehicles, equipment, and materials will be staged in designated locations within the project site. The locations of soil spoils piles at each boring site should be selected to minimize impacts on the Coast Buckwheat.

5.3 El Segundo Blue Butterfly Compensatory Mitigation

Habitat Restoration and Management

Degraded native Central Coastal Scrub habitat in patches of Coast Buckwheat affected by soil disturbance during the boring operations will be restored by removing invasive plant species and planting Coast Buckwheat. Seeds of Coast Buckwheat and associated native plants will be collected and either spread within the area, or propagated and out-planted.

Impacts on Coast Buckwheat will be mitigated at different mitigation ratios, depending on the severity of impact on the areas affected by the Project.

- Mitigate for impacts associated with the crushing or damaging of plants by vehicles in the access routes at a ratio of 2 to 1. As listed in Table 2, we expect to crush or damage up to 264 Coast Buckwheat plants. At a mitigation ratio of 2 to 1, we will compensate for this loss with the restoration and conservation of 528 plants.
- Mitigate for the temporary impacts associated within the 10-foot-diameter work area at the bore sites (includes the 8 inch bore hole) with a mitigation ratio of 2 to 1. As listed in Table 2, we expect to crush or damage 4 Coast Buckwheat plants and at a mitigation ratio of 2 to 1 we will compensate for this loss with the restoration of 8 plants.

Total compensatory mitigation for the boring Project is 536 plants within 0.54 acres. Dr. Arnold has identified several areas on the Project site that could benefit from ESBB habitat restoration. These sites are located outside of the proposed boring Project and the future proposed LWEF site and would therefore not be disturbed by these activities. Potential mitigation areas for Coast Buckwheat are identified in Figure 4, which is based on GIS studies and knowledge of the site by Dr. Richard Arnold using soil and geology data, and on areas of Coast Scrub habitat mapped since 2005 by project biologists. The entire area within these polygons has been disturbed by grazing and is in need of restoration. Within these areas, mapped annual grasslands were excluded, leaving 75.4 acres where Coast Buckwheat revegetation can occur. These polygons are strung over the entire width of the project property (see Figure 4), but outside the area that will be disturbed by the Project. At the time the mitigation planting will occur, the restoration biologist will select suitable sites considering edaphic factors, such as slope and wind effects, that would affect success of the plants. Restoration areas will also provide for flight connectivity to ensure that the ESBB habitat is not fragmented.

Adaptive Management Strategy

Adaptive management is a process by which the conservation program for the HCP may be adjusted over time to reflect new information on the life history or ecology of the Covered Species generated through research, or information on the effectiveness of the minimization and mitigation measures, especially enhancement and habitat management activities. The adaptive management provision addresses revising the overall HCP, minimization measures habitat management techniques, and monitoring protocols, as well as incorporating changes from recovery plans and new research. Depending on the nature of the change, it may be necessary that the HCP and/or permit be amended.

Adaptive Management Strategy for El Segundo Blue Butterfly Enhancement

Monitoring provides information for making adaptive management decisions. If the monitoring reports indicate the enhancement area is not in conformance with, or has failed to meet the performance criteria specified in this HCP, PREG will develop corrective measures to meet the performance criteria. PREG will coordinate with the USFWS prior to the implementation of any Adaptive Management Plan.

5.4 Monitoring and Reports

Monitoring aims to track compliance with the terms and conditions of the HCP and incidental take permit and the Santa Barbara County Planning and Development Department. There are three types of monitoring: a) compliance monitoring tracks the permit holder's compliance with the requirements specified in the HCP and permit; b) effects monitoring tracks the impacts of the covered activities on the covered species; and c) effectiveness monitoring tracks the progress of the conservation strategy in meeting the HCP's biological goals and objectives.

El Segundo Blue Butterfly

Compliance Monitoring

During the boring operations and any other covered activities, the project's USFWS-approved biologist will inspect the project site to ensure that the work remains within the perimeters shown on the project maps, that exposed soils are properly covered or moistened as needed to prevent dust problems, and to salvage and relocate any ESBB life stages.

Effects Monitoring

To quantify the amount of disturbed Coast Buckwheat at the end of the project, the USFWS-approved biologist will measure the area of soil disturbance and tally the number of damaged or killed Coast Buckwheat and total the number of ESBB life stages that were found and relocated during the Project's covered activities. This information will be summarized in the Compliance Monitoring Report submitted to the Fish and Wildlife Service and the Santa Barbara County Planning and Development Department (see subsequent section of this HCP).

Compliance Report

By January 31st following the proposed Project, a USFWS-approved biologist will submit a report to the Ventura Fish and Wildlife Office of the USFWS and to the Santa Barbara County Planning Department to document that the Project was completed in compliance with the requirements of the HCP. The report will provide the following information:

1. Brief summary or list of Project activities accomplished during the reporting year (e.g., this includes boring and other covered activities).

2. Project impacts (e.g., number of acres graded or otherwise damaged by habitat type).
3. Description of any take that occurred for the covered species (includes cause of take, form of take, amount of take, location of take and time of day, and deposition of dead or injured individuals).
4. Brief description of conservation strategy implemented to-date.
5. Monitoring results (compliance, effects, and effectiveness monitoring) and survey information (if applicable).
6. Description of circumstances that made adaptive management necessary and how it was implemented. Include a table listing the cumulative totals by reporting period, all adaptive management changes to the HCP, including a very brief summary of the actions.
7. Description of any changed or unforeseen circumstances that occurred and how they were dealt with.
8. A summary of funding expenditures, balance, and accrual.
9. Description of any minor or major amendments.

If the permit holder completes its project before the end of the 1-year permit duration, they will notify the Ventura Fish and Wildlife Office that they have completed all covered activities and mitigation measures; thus subsequent annual compliance reports will not be necessary.

Mitigation & Monitoring Reports

The applicant will provide assurance to the USFWS that effectiveness monitoring will continue 9 years following the permit term through a separate Memorandum of Agreement to ensure that the biological goals and objectives are reached. Over a period of 10 years from permit issuance, the permit holder must submit a monitoring report every other year to the Ventura Fish and Wildlife Office, describing activities performed to benefit the ESBB as part of the terms and conditions of its incidental take permit and this HCP. This report will be prepared by the permitted monitoring biologist and/or the land management entity. This report will be submitted to USFWS by December 31st of every monitoring year. This report shall include:

1. A general assessment of the condition of the habitat at the site.
2. A description of all management and restoration actions taken at the site along with an assessment of their effectiveness toward enhancing the biological goals and objectives of this HCP;
3. A description of any problems encountered in managing the site.
4. Results of monitoring studies for the endangered species and/or communities conducted during the year and an assessment of their implications for the biological goals and objectives of this HCP.
5. A description of any other activities that were conducted designed to enhance the site.

Reporting compliance with the Santa Barbara County Planning and Development Department will be implemented.

6.0 FUNDING

6.1 Funding for Minimization and Mitigation Measures

The avoidance and minimization measures and associated costs for the bore hole activities have been itemized in Table 3. Some of the activities and materials required to implement the conservation strategy of the borehole HCP, have, in some cases, already been implemented. The PREG will provide assurances that the conservation strategies are properly implemented.

Table 3. Estimated Costs to Implement Conservation Strategy Described in HCP			
<u>Item or Activity</u>	Conservation Strategy	Materials and Labor Needed or Expended	Cost
EI Segundo Blue Butterfly			
Dry Season	Avoid Construction During the Adult Flying Season (June 15 To September 15) of the ESBB	N/A	0
Relocation of ESBB Life Stages	USFWS-Approved Biologist to Move Life Stages of ESBB to Safe Area (Work Stopped Until Complete)	N/A	Covered under monitors below
Delineate Boundaries of All Impact Areas	Clearly Mark Boring Work Sites, Parking Areas, and Materials Areas with Plastic Barrier Markers	Plastic fencing, pin flags, 2 monitors	\$6,000.00
Staging	Location of Parking, Equipment, and Material Selected and Enforced During Construction and Operations to Avoid Impacts on Listed Species and Coast Buckwheat	N/A	0
Identification of Best Access Routes to Bore Holes Prior to Construction	Biologist and engineers to Visit Project Site to Identify Access Routes that are Both Safe for the Drill Rig Operators and Reduces Impacts to Listed Species and Their Habitat to the Maximum Extent Practicable	Biologists to survey, GIS Mapping,	\$25,000.00
Provide Monitors During All Construction Activities	Biological Monitors to Work with Construction Crews and County Monitors to Fine-tune Changes On The Day of Boring To Enhance Avoidance and Minimization Measures and Record Environmental Compliance in Monitoring Reports	monitors	\$8,000.00
Provide Restoration Areas for Coast	Restoration Biologists to Prepare Soil, Install Coast		\$32,000.00

Buckwheat on Project Lands & Monitoring for 9 years	Buckwheat in Areas Selected by Dr. Arnold, & monitor the sites		
Funding for Unexpected Repairs or Natural Disasters	Repair Damage	Unknown	\$3,000.00
Grand Total			\$74,000

6.2 Funding Source(s)

The applicants, PREG, will pay for all costs associated with implementing this HCP's conservation strategies, including minimization measures, conservation credits, plus effects and compliance monitoring as itemized in Table 3. In recognition of the fact that the costs for these activities in Table 3 are estimates, the actual incurred costs may be less or more than these estimates. However, if the actual costs for the minimization activities are higher than estimated in Table 3, PREG agrees to pay the actual costs.

6.3 Funding Mechanism and Management

PREG will provide all funds needed to implement the conservation program measures itemized in Table 3. The applicant has already funded the delineation of boundaries for all impact areas (\$6,000) and the identification of best access routes to bore holes prior to construction (\$25,000), and receipts are included in Appendix A. The applicants understand that failure to provide adequate funding and consequent failure to implement the terms of this HCP in full could result in temporary permit suspension or permit revocation. To demonstrate their ability to cover the remaining costs of \$43,000, the applicants will provide an escrow account to the USFWS prior to the USFWS reaching a permit decision.

7.0 ALTERNATIVES

7.1 Summary

Section 10(a)(2)(A)(iii) of the Endangered Species Act of 1973, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that alternatives to the taking of species be considered and reasons why such alternatives are not implemented be discussed. Two alternatives for the proposed project are discussed.

7.2 Alternative #1: No Action

Under the No Action Alternative, implementation of the boring project would not occur and Acciona would not request an incidental take permit, and an incidental take permit would not be issued by the USFWS for ESBB. The leased lands of project would continue to exist as rangeland for grazing cattle and some dryland farming. Furthermore, the conservation measures described in this HCP would not be implemented in a timely manner and the conservation of 2-acre of a Conservation Area for GTP would not occur. Thus, the No-Action Alternative is concluded to be of lesser conservation value to the covered species than the proposed project with the accompanying HCP, and, for these reasons, the No Action Alternative is rejected.

7.3 Alternative #2: Helicopter Access to the Site

Under this alternative driving drilling and sampling equipment to the 20 geotechnical boring locations would be eliminated. Equipment used for drilling and sampling soils would be lifted by helicopter from staging areas to the locations that sample borings would be required. By airlifting drilling equipment into the boring locations, impacts to ESB and Gaviota tar plant would be eliminated. However, helicopters large enough to lift the drilling equipment are not readily available. Drilling equipment is large and heavy and not designed to be lifted to remote locations by aircraft. Safety related to efficient transport of drilling equipment in the mountainous terrain, steep canyons and inaccessible areas where drilling equipment may be dropped pose significant uncertainty. For these reasons, the Helicopter Access to the Site Alternative has been rejected.

8.0 PLAN IMPLEMENTATION, CHANGED AND UNFORSEEN CIRCUMSTANCES

8.1 Plan Implementation

The proposed project described herein will be implemented by the applicant PREG, and their contractors. The schedule of implementation of the covered activities will depend on the timing of issuance of the incidental take permit from the USFWS and CDFG, as well as seasonal constraints. However, we plan to commence activities in mid-November and continue (weather permitting) for a month. In case weather does not allow the boring activities to occur this year, we request that the length of the HCP last for a period of one year.

8.2 Changed Circumstances

8.2.1 Summary of Circumstances

Section 10 regulations [(69 Federal Register 71723, December 10, 2004 as codified in 50 Code of Federal Regulations (C.F.R.), Sections 17.22(b)(2) and 17.32(b)(2)], require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise

during the implementation of the HCP. In addition, the HCP No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the USFWS. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the USFWS and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances, and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP or IA), then the permittee will implement those measures as Habitat Conservation Plan for the Borehole Project Plan Implementation specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances, and such measures were not provided for in the plan's operating conservation program, the USFWS will not require these additional measures absent the consent of the permittee, provided that the HCP is being "properly implemented" (properly implemented means the commitments and the provisions of the HCP and the Implementing Agreement have been or are fully implemented).

8.2.2 Listing of New Species

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Act during the term of the section 10(a)(1)(B) permit, the section 10 permit will be reevaluated by the USFWS and the HCP covered activities may be modified, as necessary, to establish that the activities covered under the HCP are not likely to jeopardize or result in the take of the newly listed species or adverse modification of any newly designated critical habitat. PREG, the land lessees, shall implement the modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. The property lessees shall continue to implement such modifications until such time as the Permittee has applied for and the USFWS has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the USFWS notifies the Boring Project Permit in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat. The occurrence of a newly listed species at the Boring Project site during the 1-year permit is unlikely due to the short time when the project will be completed and the short life of the incidental take.

Foreseeable changed circumstances within the Project area of this HCP including the following: the new listing of a species; the discovery of the Zayante Band-winged grasshopper, Santa Cruz wallflower, Ben Lomond spineflower, Ben Lomond Coast Buckwheat, Silversleaf Manzanita, or Santa Cruz cypress at the project site; or natural disasters.

8.2.3 Discovery of Other Currently Listed Species at the Project Site

In the unlikely event that one or more currently listed endangered or threatened species are found at the LWEP site, the applicant will cease project activities that would likely result in take of the newly-discovered listed species and apply for a permit amendment. Because of the short duration of the Project permit, this circumstance is unlikely to occur.

8.2.4 Natural Disasters

Wildfire, erosion, extended drought, earthquake or other natural disaster, may occur. However, the short duration of the permit (i.e., one year) lessens the likelihood that one of these phenomena may cause substantial changes to conservation during the permit period. Furthermore, some types of changed circumstances, for example a wildfire, may actually enhance habitat values for the GTP in the long term because these annual plants seem to thrive in disturbed areas, and can regenerate well after such fires. Winter storms or earthquakes could cause landslide or erosion problems in habitat areas that would require subsequent repairs, such as slope stabilization, repair of fencing, and revegetation. A portion of the fees encumbered for conservation of the covered species include contingency funds to cover the costs of unexpected repairs, or habitat restoration that may be required as a result of any natural disasters.

8.3 Unforeseen Circumstances

Unforeseen circumstances are defined in 50 CFR 17.3 as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the HCP's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. In case of an unforeseen event, the permittee shall immediately notify the USFWS staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the USFWS will consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild. If the USFWS determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances where the HCP is being properly implemented, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under original terms of the HCP only with the consent of the permittee. Thus, in the event that unforeseen circumstances adversely affecting the Borehole Project occur during the term of the requested incidental take permit, PREG would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the revised (USFWS, 2004) Habitat Conservation Plan Assurances ("No Surprises") Rule (50 CFR Part 17).

8.4 Amendments

8.4.1 Minor Amendments

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, and change significantly the boundaries of the HCP. Examples of minor amendments include correction of spelling errors or minor corrections in boundary descriptions. The minor amendment process is accomplished through an exchange of letters between the permit holder and the USFWS's Ventura Field Office.

8.4.2 Major Amendments

Major amendments to the HCP and permit are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the USFWS's decision documents, including the NEPA document, the biological opinion, and findings and recommendations document. Major amendments will often require additional public review and comment.

8.5 Suspension/Revocation

The USFWS may suspend or revoke their respective permits if Acciona North America (PREG) fails to implement the HCP in accordance with the terms and conditions of the permits or if suspension or revocation is otherwise required by law. Suspension or revocation of the Section 10(a)(1)(B) permit, in whole or in part, by the USFWS shall be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

8.6 Permit Renewal

The applicants request a permit duration of one (1) year. This period of time should provide that the covered activities associated with the proposed Project can be completed prior to permit expiration. Upon expiration, the Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. To renew the permit, PREG shall submit to the USFWS, in writing: a request to renew the permit, along with reference to the original permit number; certification that all statements and information provided in the original HCP and permit application, a description of any take that has occurred under the existing permit; and a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover. If the USFWS concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If PREG files a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permits expiration date, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, PREG may not take listed species beyond the quantity authorized by the original permit. If PREG fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. PREG must have complied with all annual reporting requirements to qualify for a permit renewal.

8.7 Permit Transfer

In the event of a sale or transfer of ownership of the property during the life of the permit, the following will be submitted to the USFWS by the new owner(s): a new permit application, permit fee, and written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner will provide sufficient funding for the HCP and will implement the relevant terms.

9.0 LITERATURE CITED

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APPENDIX A

Invoices for Minimization Measures Already Completed