4.10 HAZARDS AND HAZARDOUS MATERIALS

This section describes and evaluates the potential risks to human health and safety associated with the transportation, use, storage and disposal of hazardous materials associated with construction and operation of the proposed project. It also evaluates potential incidents of upset (e.g., accidental spills) involving hazardous materials and their potential impact on area residents and businesses. This section identifies and discloses the status of the project site as an identified hazardous materials site (if applicable) on state or federal agency databases. The information and analysis provided in this section is largely derived from the *Phase I Environmental Site Assessment (ESA) and Limited Phase II Assessment for the East Area 1 Specific Plan Area, Ventura County, California* (Applied Environmental Technologies, Inc., January 2007). The complete ESA is provided in Appendix J of this EIR. In addition, an analysis of potential safety hazards associated with the Santa Paula Airport is also included, since this facility is located within two (2) miles of the proposed project.

4.10.1 EXISTING CONDITIONS

4.10.1.1 Use, Disposal, Storage and Transport of Hazardous Materials[1]

The existing site consists of citrus and avocado orchards, row crops, farm structures and residences.[2] The site routinely uses and stores substances identified by many state and federal agencies as hazardous. These materials include household cleaners and solvents and pesticides and herbicides used in agricultural processes. These materials are stored on-site within appropriate covered and/or enclosed structures. Associates Insectary of Santa Paula furnishes the project site's pesticide needs and indicates that no banned pesticides are used onsite.[3]

Fueling of farm vehicles occurs within the existing project site within designated areas. In addition, the project site contains a 1000-gallon above ground storage tank (AST). There is no storage of acutely hazardous materials[4] onsite.

There are three groundwater wells present onsite. The wells are accompanied by above ground tanks containing diesel fuel which run the well pumps. No staining or other indication that spillage or leaking has occurred from these tanks was observed during the onsite Phase I and limited Phase II Assessment.

Sensitive receptors[5] include nine single-family residences located along Padre Lane within the project site; a tenth single family residence is located on the western portion of the site. There are no schools located within one-quarter of a mile of the existing project site. However, there are a number of schools located within close proximity to State Route (SR)-126, a major east/west transportation corridor between Los Angeles and Ventura Counties. Schools located within one-quarter of a mile of SR-126 and within close proximity (< 2.5 miles) of the project site are listed in Table 4.10-1:

[1] Note: "Hazardous material" means any material that, because of its quantity, concentration, physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that the administering agency (CUPA) determines to be potentially injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

[2] Note: Residences, schools or outdoor work and/or recreation areas may be considered as potential sensitive receptors for hazardous waste since their use, improper disposal or accidental spills can affect these groups either directly or indirectly.

[3] Source: *Phase I Environmental Site Assessment (ESA) and Limited Phase II Assessment for the East Area 1 Specific Plan Area, Ventura County, California* (Applied Environmental Technologies, Inc., January 2007). See Appendix J of this EIR.

[4] Note: Acute hazardous waste is waste that the United States Environmental Protection Agency (EPA) has determined to be so dangerous in small amounts that they are regulated the same way as are large amounts of other hazardous wastes.

[5] Note: Sensitive receptors generally include schools, outdoor work places, park and recreational faculties and other areas which could be affected by the use, handling or storage of a hazardous material in the event of a spill or its accidental release.

TABLE 4.10-1
SCHOOLS LOCATED WITHIN ONE-QUARTER MILE OF STATE ROUTE-126 AND WITHIN CLOSE PROXIMITY TO THE PROJECT SITE

SCHOOL SITE	DISTANCE TO SR-126 (MILES)	LOCATED WITHIN ¼ MILE OF SR-126 (YES/NO)
Grace S. Thille Elementary School 1144 East Ventura Street	0.16	Yes
Barbara Webster Elementary School 1150 Saticoy Street	0.66	No
Isbell Middle School 221 South Fourth Street	0.18	Yes
Santa Clara Schoolhouse 20030 Telegraph Road	0.01	Yes

Source: P&D Consultants, 2007.

According to Table 4.10-1, trucks transporting hazardous materials travel along SR-126 and pass within one-quarter of a mile of Grace S. Thille Elementary School located at 1144 East Ventura Street, Isbell Middle School located at 221 South Fourth Street, and Santa Clara Schoolhouse located at 20030 Telegraph Road. There are no hazardous materials used at the project site that are considered acutely hazardous.

4.10.1.2 Potential Accidental Release of Hazardous Materials

Minor quantities of hazardous materials (discussed above) have been spilled due to human error at the project site. However, none of the hazardous materials used at the existing site are considered acutely hazardous.

During a Phase II assessment conducted December 2004, the location of a former underground gasoline tank, above ground diesel tanks, and pesticide storage shed were identified. The Phase II assessment was conducted in four parts. The existing agricultural areas were sampled for pesticides. The soil adjacent to the current pesticide storage shed was also sampled for pesticides. The area of the former underground fuel tanks was sampled for fuel hydrocarbons and volatile organics. Several areas around the site adjacent to the above ground diesel tanks were sampled for petroleum hydrocarbons. The results of the analyses are as follows: 1) the agricultural areas showed trace amounts of gamma-chlordane, alpha-chlordane, and DDT and its metabolites; 2) the pesticide shed showed no detectable concentrations of pesticides; 3) the former underground storage tank had no detectable concentrations of total petroleum hydrocarbons (TPH), volatile organic compounds (BTEX), or fuel oxygenates (TBA, DIPE, ETBE, TAME and MTBE); and 4) the above ground diesel tanks had no detectable concentrations of hydrocarbons.

According to EPA Region 9 (2004 Guidance) guidance for Chlordane, DDD, DDE, and DDT are:

- Chlordane: Soil screening level is 10 milligrams (mg)/kilogram (kg) and the remediation level is 1.6 mg/kg for residential and 6.5 mg/kg for industrial uses.
- DDD: Soil screening level is 16 mg/kg and remediation level is 2.4 mg/kg for residential and 10 mg/kg for industrial uses.
- DDE: Soil screening level is 54 mg/kg and remediation level is 1.7 mg/kg for residential and 7.0 for industrial uses.
- DDT: Soil screening level is 32 mg/kg and remediation level is 1.7 mg/kg for residential and 7.0 mg/kg for industrial uses.

The sample readings for the East Area 1 site (refer to Table 1, Appendix J of this EIR) indicate that the concentrations on-site reach the following levels:

- Chlordane (gamma) 30.3 micrograms/kg or 0.0303 mg/kg
- Chlordane (alpha) 29.1 micrograms/kg or 0.0291 mg/kg
- DDD 8.05 micrograms/kg or 0.00805 mg/kg
- DDE 18.44 micrograms/kg or 0.01844 mg/kg
- DDT 8.14 micrograms/kg or 0.00814 mg/kg

As noted above, all the samples collected on-site are below both the screening threshold and the remediation threshold as established by EPA Region 9.

4.10.1.3 Hazardous Materials Database Searches and Site Reconnaissance

The Phase I ESA prepared for the project site Assessor Parcel Numbers (APN) indicates that agricultural uses have been the principal land use for at least sixty years.

The Phase I ESA noted that historical and current agricultural operations likely employed and/or employ insecticides to control pests. In addition, to reduce impacts from frost on citrus crops, smudge pots (e.g., kerosene heaters, etc.) were commonly employed. Many of the materials used during these activities are considered hazardous and may be contained within the soil or buried on the project site.

The Phase I ESA found that APN 040-0-180-565 is listed as containing an underground storage tank (UST) located at 18249 Telegraph Road (as of October 11, 2006). In addition, this APN is also listed as containing an above ground storage tank (AST), located at 18251 Telegraph Road (as of and November 2, 2006). There are no regulatory identification numbers listed for either tank. The facility status for the UST is listed as inactive and no status is given for the AST. Supplemental information to the Phase I ESA indicates that the underground tanks at the site were removed with no apparent soil impact. A limited site assessment conducted in the area of former tank locations did not indicate any environmental impact. Unless impacted soil is identified, no further corrective measures should be required.

The Phase I ESA indicates that the project site is not located and/or listed on any other local, state or federal agency hazardous materials handling, storage or releases databases (e.g., National Priority List, Hazardous Materials Incident Report System). A total of sixteen off-site properties located within one-half mile from the proposed project site are contained on hazardous materials databases. A total of four properties from one-half to one mile of the proposed project site were listed on various hazardous materials databases. The existing site is identified on these hazardous materials databases and is known to store and/or use chemicals that generate hazardous wastes.

4.10.1.4 Airport Hazards

The project site is located approximately one mile southeast of the Santa Paula Airport. The Santa Paula Airport is in the south-central part of the City and is bounded by SR-126 on the north, Palm Avenue on the west, Ojai Street on the east and the Santa Clara River on the south. The Airport is a public use airport which is privately owned and operated by the Santa Paula Airport Association. The Airport encompasses a total of 38 acres and provides a single asphalt runway (Runway 4/22) which is 2,650 feet long and 40 feet wide.[6]

[6] Source: Airport Comprehensive Land Use Plan for Ventura County (Final Report), Ventura County Airport Land Use Commission, page 4-6 (no date provided for report).

The runway is used by piston and propeller, single and twin engine planes. No commercial aircraft use this Airport. The Airport operates under visual flight rule conditions only, indicating that approaches to the runway are only made in weather conditions where cloud cover is greater than 1,000 feet in height and visibility is greater than three miles.

The State of California has defined air safety zones in the Airport Land Use Planning Handbook. Santa Paula Airport has adopted the State of California air safety zones which include the Inner Safety Zone, the Outer Safety Zone and the Traffic Pattern Zone. A fourth air safety zone, the Extended Runway Centerline Zone, was not applied by the Ventura County Airport Land Use Commission to Santa Paula Airport due to the lack of a relationship with historical aircraft accident data in Ventura County, and the lack of instrument approaches at the Airport. Only the Traffic Pattern Zone has the potential to overlap the project site.

The Traffic Pattern Zone is the area beneath the outer edge of the aircraft flight paths. Review of the City's Airport Zone Map indicates that the project site is not within an Airport-Influenced Overlay Zone (KI), which corresponds to the Ventura County Airport Land Use Plan "Traffic Pattern Zone." The property is not within the County's "Height Restriction Zone" for the Santa Paula Airport. The purpose of the KI overlay zone is to require less intense uses and development within the area in which airplane traffic is concentrated. The boundaries of the City's KI overlay zone correspond to the boundaries of the Traffic Pattern Zone, as identified for the Santa Paula Airport in the Airport Comprehensive Land Use Plan for Ventura County.

4.10.1.5 Emergency Evacuation and Response Plans

As noted previously, regional access to the project site is available via SR-126. Local street access to the project site is currently only available through the City of Santa Paula's circulation network via Telegraph Road/Padre Lane. The Ventura County Emergency Response Plan is modeled after the State guidelines for a Multi-Hazards Function Plan (MHFP), which addresses emergency preparedness, response, and evacuation procedures, as well as roles and responsibilities of public safety personnel. The County of Ventura has an Emergency Response Plan and maintains an Emergency Operations Center. The program is coordinated by a full-time management analyst/emergency preparedness coordinator assigned to the City of Santa Paula Fire Department.

4.10.1.6 Multi-Jurisdictional Hazard Mitigation Plan for Ventura County[7]

The Multi-Jurisdictional Hazard Mitigation Plan for Ventura County (Plan) was prepared in March 2005 to meet the Department of Homeland Security's Federal Emergency Management Agency (FEMA) requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) (DMA 2000) and Interim Final Rule (the Rule). The Rule establishes the minimum hazard mitigation planning requirements for states, tribes, and local entities. The City of Santa Paula is a participating member of the Plan.

The Plan is intended to serve many purposes, including the following:

- Enhance Public Awareness and Understanding – to help residents of the county better understand the natural and human-made hazards that threaten public health, safety, and welfare; economic vitality; and the operational capability of important institutions.
- Create a Decision Tool for Management – to provide information that managers and leaders of local government, business and industry, community associations, and other key institutions and organizations need to take action to address vulnerabilities to future disasters.

[7] Source: Multi-Jurisdictional Hazard Mitigation Plan for Ventura County, March 2005.

- Promote Compliance with State and Federal Program Requirements – to ensure that Ventura County and its incorporated cities comply with laws and regulations that encourage or mandate local governments to develop comprehensive mitigation plans.
- Enhance Local Policies for Hazard Mitigation Capability – to provide the policy basis for mitigation actions that should be promulgated by participating jurisdictions and districts to create a more disaster-resistant future.
- Provide Inter-Jurisdictional Coordination of Mitigation-Related Programming – to ensure that proposals for mitigation initiatives are reviewed and coordinated among the participating jurisdictions within the county.
- Achieve Regulatory Compliance – to qualify for the Pre-Disaster Mitigation (PDM) program, local jurisdictions must have an approved mitigation plan to receive a project grant. Local jurisdictions must have approved plans by November 1, 2004, to be eligible for HMGP funding for presidentially declared disasters after this date. Plans approved at any time after November 1, 2004, will make communities eligible to receive PDM and HMGP project grants.

The Plan addresses four major hazard profiles which including, earthquakes, flooding, geologic hazards and Wildfires. With the exception of wildfires, these major hazard profiles are discussed within the following sections of this EIR:

- Earthquakes – These issues are addressed in Section 4.8 (Geology & Soils)
- Geologic Hazards – These issues are addressed in Section 4.8 (Geology & Soils)
- Flooding Hazards – These issues are addressed in Section 4.9 (Hydrology & Water Quality)

Wildland Fires

A wildland fire is an uncontrolled fire that spreads through consumption of vegetation. They often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may be visible from miles around. Wildfires can be human-caused through acts such as arson or campfires, or can be caused by natural events such as lightning. Wildfires can be categorized into four types:

- Wildland fires occur mainly in areas under Federal control, such as national forests and parks, and are fueled primarily by natural vegetation;
- Interface or intermix fires occur in areas where both vegetation and structures provide fuel. These are also referred to as urban-wildland interface fires;
- Firestorms occur during extreme weather (typically high temperatures, low humidity, and high winds) with such intensity that fire suppression is virtually impossible. These events typically burn until the conditions change or the fuel is exhausted; and
- Prescribed fires and prescribed natural fires are intentionally set or natural fires that are allowed to burn for beneficial purposes.

Additional factors that contribute significantly to wildland fire behavior include:

- Topography: As slope increases, the rate of wildland fire spread increases. South facing slopes are also subject to greater solar radiation, making them drier and thereby intensifying wildland fire behavior. However, ridge tops may mark the end of wildland fire spread, since fire spreads more slowly or may even be unable to spread downhill.
- Fuel: The type and condition of vegetation plays a significant role in the occurrence and spread of wildland fires. Certain types of plants are more susceptible to burning, or burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available to fuel the fire (referred to as the "fuel load"); the ratio of living to dead plant matter is also

important. The risk of fire is increased significantly during periods of prolonged drought as the moisture content of both living and dead plant matter decreases. The fuel's continuity is also an important factor, both horizontally and vertically.

- Weather: The most variable factor affecting wildland fire behavior is weather. Variables such as temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildland fire activity. By contrast, cooling and higher humidity often signals reduced wildland fire occurrence and easier containment. The frequency and severity of wildland fires is also dependent upon other hazards, such as lightning, drought, and infestations (such as the recent damage to southern California alpine forests by the pine bark beetle).

If not promptly controlled, wildland fires may grow into an emergency or disaster. Even small fires can threaten lives, resources, and destroy improved properties. It is also important to note that in addition to affecting people, wildland fires may severely affect livestock and pets. Such events may require the emergency watering/feeding, shelter, evacuation, and event burying of animals.

The indirect effects of wildland fires can also be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams thereby enhancing flood potential, harming aquatic life and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above.

Wildfires are a common occurrence in Ventura County. From 1953 to 2003, 67 wildfires with an extent greater than 1,000 acres each have occurred in Ventura County. Nineteen of those fires burned over 10,000 acres. The most recent, significant wildfires were also among the largest ever recorded: in October 2003, the Piru fire burned almost 64,000 acres and the Simi Valley fire burned over 108,000 acres. These fires destroyed 40 homes, injured over 40 people, and required a response involving over 2,000 firefighters and other emergency personnel. In addition, in September 2006, the Day fire burned over 162,700 acres and involved 4,600 active firefighters.[8]

Wildland fires can occur in open spaces containing a mixture of flammable and nonflammable vegetation cover. Such fires can endanger human life and existing structures to the extent that they occur or originate in developed or partially-developed areas. The California Division of Forestry and Fire Protection have published maps of the Wildland Urban Interface (WUI) Fire Threat. The proposed project will be built within a fire threat area that has been ranked as having little or no threat to having an extreme threat.[9] The County of Ventura General Plan (Hazards Appendix) identifies the northern portion of the project site as a high fire hazard area while the remainder of the site is designated as a non-state responsibility area.[10] Similarly, according to the City of Santa Paula General Plan Update EIR,[11] the highest fire threat areas occur along the northern boundary (designated as high fire hazard) of the project site which consists of undeveloped hillside with native vegetation, with modest fire threat throughout the agricultural areas of the existing project site (designated as low range area) and areas bordering Santa Paula and Haun Creeks. Based upon information contained within the County's Hazards Appendix, the northern portion of the project site has experienced incidents of wildfire between 1898 and 1993.[12]

[8] Source: "Day Fire." http://www.inciweb.org/incident/475/. 14 Aug. 2007.
[9] Source: http://frap.cdf.ca.gov/projects/wui/525_CA_wui_analysis.pdf accessed on February 14, 2007.
[10] Source: County of Ventura General Plan, Hazards Appendix, Figure 2.13.2b.
[11] City of Santa Paula General Plan Update Final EIR, February 1998.
[12] Source: County of Ventura General Plan, Hazards Appendix, Figure 2.13.3b.

4.10.2 THRESHOLDS OF SIGNIFICANCE

Based upon the thresholds contained in Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances or wastes within one-quarter mile of an existing or proposed school.
- Is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.10.3 METHODOLOGY RELATED TO HAZARDS AND HAZARDOUS MATERIALS

The assessment of impacts concerning hazards and hazardous materials was based on the Phase I and Limited Phase II ESA; review of City, state and federal regulations concerning hazardous materials use, handling, storage and transport; assessment criteria contained in the *Ventura County Initial Study Assessment Guidelines* and *City of Santa Paula General Plan*; and other relevant land use planning documents concerning airport safety and land use compatibility, emergency evacuation and wildland fires.

4.10.4 POTENTIAL IMPACTS

4.10.4.1 Construction Impacts

Construction activities would entail the use of machinery and other equipment that may require on-site fueling or maintenance/servicing with other petroleum-based products (e.g., grease, oil). These materials are considered hazardous and could cause temporary localized soil and water contamination. Incidents of spills or other localized contamination may occur during refueling, operation of machinery, undetected fluid leaks, or mechanical failure. In addition, during construction of the proposed project, paints, solvents and other materials may be used for building treatments (wood and cement sealers, etc.) and other construction-related activities. The release and/or spillage of these contaminants could result in potentially significant impacts, provided adequate mitigation measures are not in-place before construction.

The proposed project would be subject to compliance with a number of spill prevention, containment and clean up measures identified within existing County of Ventura permits issued by the Regional Water Quality Control Board (RWQCB). According to SMPC §54.30, all construction activity that requires a grading

permit must be undertaken in accordance with any conditions and requirements (including Best Management Practices (BMPs)) established by the Ventura County Municipal Stormwater NPDES Permit (Order No. 94-082, NPDES Permit No. CAS 063339).[13] The BMPs identified in the Ventura County Municipal Stormwater NPDES Permit include stormwater prevention measures included in the Stormwater Pollution Prevention Plan (SWPPP) and which would be required for all phases of construction. Adherence to the SWPPP and the implementation of standard BMPs during construction would reduce the potential for hazardous materials spills. As such, impacts from the use and handling of hazardous materials would be less than significant.

As noted previously in Table 4.10-1, during construction, trucks containing hazardous materials (e.g., paint, solvents) would pass within one-quarter of a mile of three (3) existing school via SR-126. In addition, construction activities would also require deliveries of construction materials within close proximity of residences located along Padre Lane. Although truck deliveries associated with the construction of the proposed project would likely only contain construction materials (e.g., wood, pipes) and other non-hazardous materials required for construction, it is possible that these deliveries could contain hazardous materials destined for other project sites. Should a spill or release of a hazardous material occur within close proximity of these schools or residences, a potentially short-term adverse significant impact related to the transport of hazardous materials could occur.

No construction-related impacts associated with an airport land use plan or safety hazards for people working in the project area would occur since the project site is located outside of the KI zone.

The proposed project could impair implementation of or physically interfere with an adopted emergency response plan (see Sections 4.4 (Transportation & Circulation), 4.8 (Geology & Soils), 4.9 (Hydrology & Water Quality) and 4.13 (Public Services) of this EIR for a complete discussion of potential emergency response service impacts) or emergency evacuation plan. During the construction period (anticipated to be ten years) construction activities may require temporary road detours and/or closures resulting in localized increase in traffic and circuitous traffic routes. In addition, during certain periods of construction, the transport of oversized materials and/or equipment will be required necessitating the use of large and often slow moving vehicles. Combined, these activities could result in short-term adverse and significant impacts on the implementation of an evacuation plan.

Foreseeable potential sources of ignition for wildland fires at the project site during construction include incidents such as sparks from exhaust pipes, discarded cigarette butts, contact of mufflers with dry grass, other sources of sparks or flame, and spills or releases of flammable materials such as gasoline. The potential for wildland fires associated with construction of the project is significant and would require appropriate mitigation in the form of preventive measures, including both construction safety procedures and appropriate clearing of brush and other potential fuels. As such, impacts are considered short-term adverse and significant for wildland fires.

4.10.4.2 Operations Impacts

Agricultural operations within the Agriculture Preserve would continue to require the use and storage of hazardous materials during operation and maintenance of these orchards and associated facilities (e.g., smudge pots, well pumps). However, the elimination of much of the existing orchards and row crops would reduce the overall amount of chemicals necessary for onsite operations and delivery. As such, chemical delivery frequency would be gradually reduced for onsite agricultural operations and maintenance. However, some chemicals necessary for maintenance of the Agricultural Preserve would be needed. The existing

[13] City of Santa Paula, Public Works Department. "Adopted Budget for Fiscal Year 2007-08: NPDES Stormwater Quality Management Program." 2007. http://www.ci.santa-paula.ca.us/budget/2007-8/PublicWorks.pdf

agricultural operations involve growing and harvesting avocados. This crop is typically sprayed only with Avermectin, either by air or ground. Spraying is typically done twice a year, in June and July, either from the ground or because of the height of the trees, from the air by helicopters (fixed wing aircraft are not used in this area). Avermectin is not a restricted material, but it is illegal for farmers to allow the material to drift beyond their acreage. Incidences of overspray and drift could occur on-site and would represent a potentially adversely impact on adjacent residences.

As noted in Section 4.1 (Land Use & Planning), onsite land uses would likely require the use of some chemicals (e.g., household cleaners, solvents) which are considered hazardous. However, all hazardous materials used and/or generated from on-site land uses would comply with applicable local, state and federal regulations concerning their storage, handling and disposal. Similarly, the transportation of hazardous materials would also be subject to these relevant regulations and only vendors licensed in the handling, transportation and disposal of these materials would be utilized by businesses permitted to deliver these materials within the City of Santa Paula. Therefore, impacts associated with the use, transportation and disposal of hazardous materials would be less than significant.

Educational, medical, institutional and businesses within the development may use hazardous chemicals, but employees of on-site businesses would be required to adhere to all local, state and federal regulations governing the use, handling, storage and disposal of these materials. In addition, a Business Plan (i.e., hazardous materials management and emergency response plan) [14] would also be prepared and kept on-site for review and use by employees. A copy of the Business Plan would also be provided to the Santa Paula Fire Department and other applicable agencies. Adherence to required regulations concerning hazardous waste would be required for all businesses and employees to prevent and/or address spills of hazardous materials. Impacts associated with incidences of spills of hazardous materials would, therefore, be less than significant.

As previously noted, trucks transporting hazardous materials would travel along SR-126 and would be within one-quarter of a mile of Grace S. Thille Elementary School, Isbell Middle School, and Santa Clara Schoolhouse. However, because hazardous materials utilized by the existing agricultural operations (or proposed future uses) are not considered acutely hazardous and would not substantially increase the risk of upset along this portion of SR-126, impacts would be less than significant.

No operation-related impacts associated with the Santa Paula Airport for people living and working in the project area would occur since the project site is located outside of the KI zone.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The City of Santa Paula Fire Department would be responsible for ensuring that the proposed project (including proposed land uses) does not impair or physically interfere with an adopted emergency response or evacuation plan. This would be accomplished in a number of ways including ensuring that project land uses are located away from hazard areas (e.g., flooding, wildland fires), adequate access and escape routes (clearly marked and delineated) are available and area residences are aware of emergency evacuation plans in the event of a major emergency/catastrophe. Impacts associated with emergency response plans would, therefore, be less than significant.

The Specific Plan includes an area designated for Agriculture Preserve within the northern portion of the project site. This area would remain in agricultural production, but would not be accessible to area residents for hiking and walking. Portions of this area contain native plant communities which are highly combustible. In addition, this area is designated by the City's General Plan as a high fire threat zone. The presence of local

[14] Source: County of Ventura General Plan, Hazards Appendix, November 2005.

residents and agriculture machinery could increase the potential for incidents of fire within this location. Potential ignition sources may include sparks from exhaust pipes, discarded cigarette butts, contact of mufflers with dry grass, other sources of sparks or flame, and spills or releases of flammable materials such as gasoline. The potential for wildland fires associated with implementation of the proposed project is significant and would require appropriate mitigation in the form of preventive measures, including both operational safety procedures and appropriate clearing of brush and other potential fuels along trails and roadways within the open space area. As such, impacts are considered short-term adverse and significant related to wildland fires.

As described earlier, the Specific Plan site is designated as having little or no fire threat to having an extreme fire threat.[15] Surrounding land uses in the project vicinity consist of open space, commercial and light industrial, institutional and civic, and also residential land uses. The proposed Specific Plan includes mixed urban and open space land usage that would be a characteristic Wildland Urban Interface (WUI) area.

Over the past several decades, landmark historical fires in the region have been studied to bring about state-of-the-art building design features that minimize the impact of vegetation fires adjacent to communities such as the Specific Plan site. WUI areas are subject to certain regulations of the Office of the State Fire Marshal regarding building standards. The regulations are contained the California Building Code (CCR tit. 24, Part 2), California Fire Code (CCR tit. 24, Part 9) and California Referenced Standards Code (CCR tit. 24, Part 12) and cover building materials, construction methods, fire protection plans and fire hazard zoning requirements. These regulations are also contained within the Santa Paula Municipal Code (see Title 15, Chapter 150: Building Regulations) and amended, as necessary.

The Fire Protection Analysis for the City of Santa Paula (Firesafe Planning Solutions) provides standard requirements for development in the WUI. These requirements include roof coverings, exterior walls, windows and doors, protection of openings, under floor areas, accessory structures, etc. They also represent standards common in the region for the type of vegetation encountered in the WUI. With the implementation of these standard mitigation measures, impacts associated with wildland fires would be less than significant.

4.10.5 MITIGATION MEASURES

Mitigation measures contained within Sections 4.4 (Transportation and Circulation) and 4.13 (Public Services) of this EIR would address impacts noted above. However, the following additional mitigation measures are recommended:

4.10.5.1 Construction

HM-1 The project applicant and/or its contractor must ensure that material deliveries associated with construction of the proposed project do not contain hazardous materials that would be transported along Padre Lane or within one-quarter mile of a school.

HM-2 The applicant and/or its contractor must coordinate in advance of construction with the Santa Paula Fire Department to ensure that road closures (temporary or permanent) are identified and that alternate access and evacuation routes are determined in the event of an emergency and/or natural disaster.

[15] Source: http://frap.cdf.ca.gov/projects/wui/525_CA_wui_analysis.pdf accessed on February 14, 2007.

HM-3 The applicant and/or its contractor must coordinate in advance of construction with the Santa Paula Fire Department to ensure that a Health Safety Plan or procedures are in place to address potential incidences of wildfires occurring on-site or originating off-site.

4.10.5.2 Operation

HM-4 Procedures to minimize the generation of sparks, open flames, and other potential ignition sources, and the release of hazardous or flammable substances such as gasoline or diesel, must be instituted during operational and maintenance activities associated with the Agriculture Preserve and be contained within a Health and Safety Plan located on-site and provided to all employees working within this area. In addition, the Health and Safety Plan must be developed in advance of project approvals and in coordination with the Santa Paula Fire Department.

HM-5 A Fire Protection Plan (FPP) must be prepared in advance of construction of all phases of development of the proposed project and submitted for review and approval by the Santa Paula Fire Department. The FPP at a minimum will be required to address the following:

- Fuel Management Program incorporating fuel modification at the community edge and irrigated landscaping and maintenance of the community landscape
- Landscape palettes approved by the Santa Paula Fire Department in the fuel modification zones
- Design and building construction fire safety features including:
  1. Automatic fire sprinkler systems (per state requirements) in all enclosed, occupied structures, community wide
  2. Class A roofs community wide
  3. Additional building construction features, including boxed in eaves, on sides of structures adjacent to fuel modification zones.

HM-6 A Fuel Modification Plan (FMP) must be prepared in advance of construction of all phases of development of the proposed project and submitted for review and approval by the Santa Paula Fire Department. The following additional requirements must also be adhered to:

1. Combustible fencing must not occur within 20’ of the property line or immediately adjacent to fuel modification zones, to reduce the threat of fire spreading to the structure.
2. Backyard restrictions
   - Homeowners must remove portions of trees which extend within 10 feet of the outlet of the chimney.
   - Homeowners must maintain trees adjacent to or overhanging a building free of deadwood.
   - Homeowners must maintain the roof of a structure free of leaves, needles or other dead vegetative growth.
3. Off-site fuel modification must be required where 200’ of fuel modification is not provided within the project boundary. The plan must identify the methods to provide a total of 200’ band of fuel modification, or provide an alternative design with justification to the SPFD. The off-site fuel modification requirements must be coordinated with and approved by the SPFD.
4. Provide a blending of the fuel modification areas and ornamental plantings where they are adjacent to each other to visually provide for a seamless transition of

plantings. Those areas identified on the landscape plan as ornamental plantings will be treated as fuel modification where they are adjacent to open space.

5. The plans must demonstrate how the irrigation will maintain moisture in the vegetation in the irrigated zones.
6. A fuel modification plant palette must be submitted for review and approval by the SPFD. The plant palette can be developed by utilizing approved plant material from regionally approved plant lists, or by modifying the community plant palette.
7. Trees may be grouped in clusters of 3-5 maximum with minimum separation of 35'.
8. Maintain roadway clearance where fuel modification, natural or open space is adjacent to the roadway. Ten feet on each side of portions of roadways must be cleared of flammable vegetation and other vegetative growth.
9. Interior slopes must be maintained and irrigated by the Home Owners Association (HOA). Plans must demonstrate the detail the proposed maintenance practices. These must include removal of dead and dying plant material.
10. A 20' minimum structure setback must be required where lots are immediately adjacent to fuel modification zones, to reduce the threat of structure ignition from radiant and convective heat.

Submittal Criteria: Conceptual Fuel Modification Plans

Conceptual fuel modification plans must be submitted to and approved by the SPFD concurrent with review and approval of any tentative map. Three (3) sets of plans, prepared by a licensed landscape architect or other design professional with equivalent credentials must be submitted to the SPFD for review and approval.

The following must be included on the conceptual fuel modification plan:

1. Delineation of each fuel modification zone (irrigated, and thinning) with a general description of each zone's dimensions and character, i.e., 70' Zone 2, with existing vegetation removed, irrigated, and planted with drought-tolerant and fire-resistant plant material.
2. The removal of undesirable plant species as determined by the SPFD.
3. Existing vegetation impacted by the required fuel modification and, if available, proposed vegetation to be planted in the fuel modification area. The conceptual plans should be sensitive to rare and endangered species. The design professional must be prepared to address their disposition in the final plans.
4. The design of the proposed development, showing all property lines, contour lines, and the proposed location of all structures nearest to the fuel modification area, if available.
5. Photographs of the area which show the type of vegetation that currently exists, including height and density, and the topography of the site.
6. Description of the methods to be used for vegetation removal, if appropriate, i.e., mechanical or manual.
7. Location of emergency and maintenance access easements, to the satisfaction of SPFD, every 500' of the fuel modification area is suggested. The main and primary purpose is to provide maintenance access in to the fuel modification areas. Access easements must have a minimum 10' width and must be relatively flat and clear of obstructions to provide pedestrian and hand equipment access. If the access point is to be required on private homeowner lots, gates must be placed adjacent to the fuel modification areas.

8. Identification of what exists 300' beyond the development property lines in all directions, e.g., construction, natural vegetation, roads, parks.
9. Statement of who has ultimate maintenance responsibility.
10. Identification of all proposed off-site fuel modification areas and appropriate legal agreements with adjacent property owners.

Submittal Criteria: Final Fuel Modification

Final fuel modification plans must include all information required on conceptual fuel modification plans and the following additional information:

1. Location and detail of permanent zone markers.
2. Completed planting plans and specifications, including both the botanical and common names of existing vegetation within the fuel modification area and those plantings, which are proposed. The plants are to be installed in accordance with the spacing guidelines.
3. Irrigation plans and specifications.
4. Building footprints or statement that clearly indicates the limits of proposed development.
5. All applicable maintenance requirements and assignment of responsibility.
6. Tract or project conditions, covenants, conditions and restrictions (CC&R) and/or deed restrictions relative to fuel modifications.

Delineation

Fuel modification plans must depict fuel modification activities to scale. Minimal dimensional requirements for fuel modification necessitate evaluation by a SPFD representative in consultation with the appropriate jurisdictional authority. Exact delineation of the fuel modification zones with respect to topographical features and wildland exposure is required. All zone dimensions are measure on a horizontal plane; however, the actual dimensions of the zones on a slope will vary from the horizontal dimensions on the plans.

Fuel modification zones should be located within common lettered lots owned and maintained by association representing common ownership; e.g., homeowners' associations. The integrity and longevity of the fuel modification zones must be maintained with sufficient tract/project conditions and CC&Rs to specifically identify the restrictions within the fuel modification areas. If the fuel modification zones are located on private property, deed restrictions will be required to specifically identify the restrictions on any portion of the property subject to fuel modification.

Plant List

A plant palette must be submitted containing both the botanical and common names of all plant materials that are to be used. In the irrigated zone areas (which commonly serve as a screening buffer between development and open space/parkland), plants must be fire resistant and drought-tolerant. Plant materials used outside of the irrigated zones must be fire resistant. Plants prone to fire (as determined by the SPFD) must not be introduced into the fuel modification areas. All plants must be reviewed and approved by the SPFD.

Fuel Modification Zones

The following criteria apply to fuel modification zones:

Zone 1 – Irrigated Zone (30' wide)

This portion of fuel modification consists of irrigated landscaping. The plans must delineate that portion of the fuel modification area that will be permanently irrigated. Plant material selection, irrigation system design, and the landscape maintenance management plan must sensitively address water conservation practices and include methods of erosion control to protect against slope failure. This irrigated zone is a minimum of 30 feet in width and may be increased as conditions warrant. Zone 1 must be cleared of all undesirable plant species, irrigated, and planted with plants approved by the SPFD. Exceptions to save desirable species may be submitted for approval by the fire chief on a site-specific basis. Combustible construction is not allowed in Zone 1.

Zone 1 – Specific Requirements

1. Groundcover must be maintained at a height not to exceed 24 inches.
2. Native grasses, when used, must be cut after annual seeding. Heights must not exceed 12 inches.
3. Permanent irrigation must be designed to supplement native vegetation, and establish and maintain planted natives and ornamentals.
4. Any plants selected for planting in this zone must be selected from the approved plant list for the fuel modification plan.
5. Planting will be in accordance with planting guidelines and spacing standards established in this guideline.
6. In all Zones sensitive and/or protected plant species must be identified on the fuel modification plans and tagged in the field for further disposition.
7. Trees and large tree-form shrubs (e.g., oaks, sumac, toyon) which are being retained with the approval of the SPFD must be pruned to provide clearance of three times the height of the under story plant material or 10 feet, which ever is higher. Dead and excessively twiggy growth must also be removed.
8. Trees and tree-form shrubs may be grouped in clusters of 3-5 maximum with a minimum separation of 35'.
9. A distance of 20 feet must separate all existing plants or plant groupings, except cacti, succulents, trees, and tree-form shrubs.
10. All irrigation must be kept a minimum of 20 feet from the drip line of any existing native Quercus (oak) species.
11. Special consideration should be given for rare and endangered species, geological hazards, tree submitted for project approval, upon further review.
12. Removal of undesirable plant species (as determined by the SPFD).
13. Debris and trimmings produced by the removal process should be removed from the site, or left, must be converted into mulch by a chipping machine and evenly dispersed to a maximum depth of (6) inches.

Zone 2- Irrigated Zone (70' wide)

This portion of fuel modification consists of irrigated landscaping, a minimum of 70' in width. The fuel modification zone has the same requirements of Zone 1, however, the plantings selected from this zone include a higher percentage of low-growing, spreading

plant material and fewer ornamental plants, which provides a visual transition to the grasslands, beyond, in the open space areas.

Zone 2- Specific Requirements

1. The irrigation plan must demonstrate the methods to ensure that the perennials and annuals are kept in a healthy, turgid state.
2. All specific requirements listed for Zone 1 must also apply to Zone 2.

Zone 3- Thinning Zones- Non-Irrigated

Zone 3 is 100 feet in width and requires the first 50' to include 50% removal of the existing vegetation, including removal of all dead and dying undesirable species. The next 50 feet in width requires 30% removal of existing vegetation, including all dead and dying growth and undesirable species. Remaining plant material will be selectively pruned to remove 30-40% of the plant mass.

Zone 3- Specific Requirements

1. Remove all dead and dying vegetation, all fine fuels reduced to a maximum of 12 inches in height.
2. Native grasses, when used, must be cut after annual seeding. Heights must not exceed 12 inches.
3. Any plants selected for plating in this zone will be chosen from the approved plant list for the fuel modification plan (as determined by the SPFD).
4. Special consideration will be given for rare and endangered species, geologic hazards, tree ordinances, or other conflicting restrictions.
5. Reduce fuel loading by reducing the fuel in each remaining shrub or tree without substantial decrease in the canopy cover or removal of tree holding root systems.
6. In Zones 1-3, sensitive and/or protected plant species must be identified in the fuel modification plans and tagged in the field for further disposition.
7. Trees and large tree-form shrubs (e.g., oaks, sumac, toyon) which are being retained with the approval of the SPFD must be pruned to provide clearance of three times the height of the under story plant material or 10 feet, whichever is higher. Dead and excessively twiggy growth must also be removed.
8. A distance of 20 feet must separate all existing plants or plant groupings except cacti, succulents, trees, and tree-form shrubs.
9. Maintain sufficient cover to prevent erosion without being requiring planting.
10. Debris and trimmings produced by the removal process must be removed from the site, or if left, must be converted into mulch by a chipping machine evenly dispersed to a maximum depth of (6) inches.

Permanent Identification of Fuel Modification Zones

To ensure long-term identification and maintenance each fuel modification zone must be identified by a permanent marker system meeting the approval of SPFD.

Maintenance and Enforcement

Provisions for continuous maintenance must be documented on the fuel modification plans, i.e., by the homeowner's associations, property owners, or other entities.

Maintenance refers to anything needed to maintain the fuel modification area in a fire-safe condition as required by the SPFD, including the periodical removal of undesirable vegetation; replacement of dead/dying fire-resistant plantings; maintenance of the operational integrity and programming of the irrigation system; and preservation of identification markers. Written evidence indicating responsibility or maintenance must be submitted with both the preliminary and final fuel modification plans.

Ongoing maintenance must be in accordance with the original fuel modification plan.

Transfer of Maintenance Responsibility

Before the transfer of approved and installed fuel modification zones from the project applicant and/or developer to the homeowner's association or party(s) responsible for continuing maintenance, an inspection by the SPFD in company with the project applicant and/or developer, home-or property-owner's association representatives, and landscape maintenance contractor, must be made to determine if the fuel modification meets the standards and to provide fuel modification requirements to those responsible for continued maintenance. Once approved a built fuel modification plans and specifications, maintenance manuals, documents, and photographs of the completed, established fuel modification must be turned over to the party having responsibility for continuing maintenance.

Fuel Modification Implementation and Required Inspections

1. Before Rough Grading Permit: The project applicant and/or developer/builder must have approved/stamped Conceptual Fuel Modification Plan.
2. Before Final Grading Permit: The project applicant and/or developer/builder must have approved/stamped Final Fuel Modification Plan, with applicable note stating maintenance language will be provided in CC&Rs and reviewed before the City issues a certificate of occupancy for the first residential, commercial, light industrial or civic building.
3. Before Building Permit: The project applicant and/or developer/builder must implement those portions of the approved fuel modification plan determined by to be necessary by the SPFD before the introduction of any combustible materials into the area (removal of undesirable species may meet this requirement). This generally involves thinning of plant materials indicated on the approved plan. An inspection and/or release letter to the building department is required.
4. Before certificates of occupancy: The fuel modification zones adjacent to structures must be installed, irrigated, and inspected. This includes physical installation of features identified in the approved Final fuel modification plan (including, without limitation, plant establishment, thinning, irrigation, zone markers, access easements, etc). An SPFD Fire Inspector will provide written approval of completion at the time of this final inspection. The CC&R language for maintenance must also be provided and approved.
5. Before Home Owner Association (HOA) Acceptance: This activity must include the SPFD Fire Inspector and the following representatives:
    - Landscape design professional
    - Installing landscape contractor
    - HOA management representative
    - HOA landscape maintenance contractor

The fuel modification must be maintained as originally installed and approved. A copy of the approved plans must be provided to the HOA representatives at this time. Landscape professionals must convey ongoing maintenance requirements to HOA representatives.

Annual Inspection and Maintenance: The property owner is responsible for all maintenance of the fuel modification. All areas must be maintained in accordance with approved fuel modification plans. This generally includes a minimum of two growth reduction maintenance activities throughout the fuel modification areas each year (spring and fall). Other activities include maintenance of irrigation systems, replacement of dead or dying vegetation with approved materials, removal of dead plant material, and removal of undesirable species. The SPFD conducts regular inspections of established fuel modification areas. Ongoing maintenance must be conducted regardless of the date of these inspections.

HM-7 If deemed necessary, the Santa Paula Fire Department may at its discretion require exclusionary fencing around the Agriculture Preserve and/or limit access to this area by local residents during high fire potential days (e.g., "Red Flag Days").

HM-8 A 300 foot setback will be required for all residential and parkland uses located adjacent to the Agricultural Preserve.

4.10.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of mitigation measures, the proposed project would not result in adverse impacts related to hazards and hazardous materials.