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General Plan Amendment Environmental Impact Report

City of McFarland

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PUBLIC REVIEW DRAFT
ENVIRONMENTAL IMPACT REPORT

City of McFarland
General Plan Amendment

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SECTION 1.0
Executive Summary

1.0 EXECUTIVE SUMMARY

1.1 PROJECT LOCATION

The City of McFarland is located within the Central Valley, approximately 20 miles north of Bakersfield, within the northwestern portion of Kern County. McFarland is approximately 2.6-square miles and is directly bounded by unincorporated areas of the County. The cities of Delano and Wasco are located approximately seven miles to the north and approximately 11 miles to the southwest, respectively. Regional access to the City is provided by State Route 99 (SR-99) with access at Perkins Avenue, Sherwood Avenue, and Elmo Highway. SR-99, which bisects the City, extends almost the entire length of the Central Valley from Interstate 5 (I-5) near Wheeler Ridge at its southern end to SR-36 near Red Bluff at its northern end.

The City's General Plan planning area consists of a total of 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's sphere of influence (SOI). The location of the proposed General Plan Amendment (GPA) (herein referred to as the "project") includes the General Plan planning area.

1.2 PROJECT SUMMARY

The City proposes a General Plan Amendment (GPA) to amend the Land Use Element to add two new land use designations, establish new policies and objectives associated with the new land use designations and other development within the planning area, and amend the Land Use Map to assign land uses to specific areas within the SOI and change existing land use designations for several properties within the City boundaries, as further described below.

PROPOSED LAND USE DESIGNATIONS

The GPA would amend the Land Use Element to add new mixed-use and highway commercial land use designations:

- *Mixed-Use (MU)*. The Mixed-Use land use designation would allow for the development of a mix of residential, office, and retail uses in appropriate areas. The maximum density would be between 16 to 24 units per acre. Non-residential development would be determined based on lot size and development standards.

- *Highway Commercial (HC)*. The Highway Commercial land use designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants, or other visitor-serving uses. Highway commercial nodes may be located at major intersections of the community.

The introduction of a new land use designation could affect properties citywide.

1.3 PROJECT GOALS/OBJECTIVES

The Land Use Element details the City's principles, objectives, and policies in regards to the development and growth of the City. The City has identified the following overarching goals and objectives for the proposed General Plan Amendment:

- Update the Land Use Element, including the establishment of new land use designations that better support and implement the needs of the community.
- Update the Land Use Map to be consistent with the land use designations within the Land Use Element.
- Establish a land use plan and policy framework that will guide future development and redevelopment within undeveloped areas of the City and Sphere of Influence.
- Facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public.
- Provide opportunities for new commercial and industrial development that allow for the City to become a more self-sustaining community.
- Provide employment opportunities within the City that will contribute to an improved jobs/housing balance.
- Promote mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services.
- Provide opportunities for a variety of housing options to serve the needs of the community.
- Provide new goals and policies that promote improved design and development to create economically viable and vibrant environments within the planning area.

1.4 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The following summarizes the impacts, mitigation measures, and unavoidable significant impacts identified and analyzed in Section 5.0, *Environmental Analysis*, of this EIR. Refer to the appropriate EIR Section for detailed information.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
LAND USE AND PLANNING			
Kern Council of Governments **LU-1** The proposed project would not conflict with Kern COG's 2014 Regional Transportation Plan/Sustainable Communities Strategy.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G1.1:** All development shall conform to the land use density and intensity standards depicted in the General Plan.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings. **Policy G1.4:** Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas. **Policy G1.5:** Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process. **Objective G6:** Provide and encourage opportunities for Mixed Use and Transit-Oriented Development. **Policy G6.1:** Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas. **Policy G6.2:** Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas. **Policy G6.3:** Minimize the impacts of mixed-use or transit oriented development housing projects. **Policy G6.4:** Design mixed uses or transit-oriented development projects to: a. Create a pleasant walking environment to encourage pedestrian activity. b. Create lively streetscapes, interesting urban spaces and attractive landscaping. c. Provide convenient shopping opportunities residents close to their residences. d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations. **Policy G6.6:** Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. **Policy G6.7:** Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area. **Policy R3.6:** Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities. **Policy R.3.7:** Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists. **Policy C1.17:** Focus commercial retail centers adjacent to major transportation corridors. **Policy C1.18:** Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places. **Policy C1.19:** Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.		
City of McFarland General Plan **LU-2** The proposed project could result in potential inconsistency impacts with the McFarland General Plan.	No General Plan Objectives/Policies have been identified beyond those identified throughout Section 5.0 in the topic-specific analysis sections.	Refer to Mitigation Measure NOI-4. No additional feasible mitigation measures are available.	Significant and Unavoidable Impact.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
City of Mcfarland Zoning Ordinance **LU-3** The proposed project could result in potential inconsistency impacts with the McFarland Zoning Ordinance.	**Policy G6.6:** Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. **Objective G7:** Ensure the quality and character of the City of McFarland by compliance with relevant codes and regulations. **Policy G7.1:** Continually review the Municipal Code and determine which sections are outdated to meet current trends, regulations, community visions and revise as necessary. **Policy G7.2:** Provide equitable, consistent and effective code enforcement that resolves complains and addresses quality of life issues that come from poorly maintained properties. **Policy G7.3:** Provide public education about property maintenance and Municipal Code requirements.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts **LU-4** Development associated with implementation of the proposed General Plan Amendment and cumulative development could result in cumulatively considerable land use impacts.	No General Plan Objectives/Policies have been identified beyond those identified throughout Section 5.0 in the topic-specific analysis sections.	No additional mitigation is required.	Less Than Significant Impact.
POPULATION, HOUSING, AND EMPLOYMENT			
Population Growth **PHE-1** Project implementation could induce substantial population growth in the planning area.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G1.1:** All development shall conform to the land use density and intensity standards depicted in the General Plan.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G1.2: Establish land use policies that encourage a balance of jobs and housing. **Policy G2.1:** Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods. **Policy G3.2:** The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process. **Policy C1.19:** Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.		
Displaced Persons and Replacement Housing **PHE-2** Project implementation would not displace housing or people, necessitating the construction of replacement housing.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G2.1:** Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods. **Objective RI:** Provide adequate land in a range of residential densities to accommodate the housing needs of all income groups both residing and expected to reside in McFarland, while ensuring a high quality of residential development. **Policy R1.2:** Prior to the approval of a subdivision of land other than a parcel map, a zoning entitlement such as a Conditional Use Permit shall be approved. Said Conditional Use Permit or similar entitlement shall condition the residential development project to be	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	consistent with the dedication requirements of the General Plan.		
Cumulative Impacts **PHE-3** Development anticipated by the project and cumulative development could induce substantial population growth in the Kern Council of Governments Subregion.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
AESTHETICS/LIGHT AND GLARE			
Short-Term Visual Character **AES-1** Grading and construction activities associated with future development could temporarily degrade the existing visual character/quality of the respective development sites and their surroundings.	**Policy G2.1:** Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.	**AES-1** For future development located in proximity to residentially zoned properties, as deemed necessary by the City's Planning Director, prior to issuance of the Grading Permit, construction documents shall include language that requires all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area. Construction equipment shall be parked and staged within the development site. Staging areas shall be screened from view from residential properties. Construction worker parking may be located off-site with prior approval by the City; however on-street parking of construction worker vehicles on residential streets shall be prohibited. Vehicles shall be kept clean and free of mud and dust before leaving the development site. Surrounding streets shall be swept daily and maintained free of dirt and debris.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Long-Term Visual Character **AES-2** Future development within the general plan planning area could substantially degrade the existing visual character/quality of the respective development sites and their surroundings.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G1.1:** All development shall conform to the land use density and intensity standards depicted in the General Plan. **Policy G1.3:** Encourage human-scale urban design of neighborhoods, blocks and buildings.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas. **Policy G1.5:** Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development. **Policy G1.6:** Emphasize City gateways that create a distinct and positive impression of the city. **Objective G2:** Minimize conflicts between land uses. **Policy G2.1:** Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods. **Objective G3:** Discourage leapfrog and sprawl development. **Objective G5:** Protect agricultural land. **Policy G6.1:** Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas. **Policy G6.3:** Minimize the impacts of mixed-use or transit oriented development housing projects. **Policy G6.4:** Design mixed uses or transit-oriented development projects to: a. Create a pleasant walking environment to encourage pedestrian activity. b. Create lively streetscapes, interesting urban spaces and attractive landscaping. c. Provide convenient shopping opportunities residents close to their residences. d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project. **Policy G6.6:** Amend the Zoning Ordinance to implement mixed use		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. **Objective G7:** Ensure the quality and character of the City of McFarland by compliance with relevant codes and regulations. **Policy G7.2:** Provide equitable, consistent and effective code enforcement that resolves complains and addresses quality of life issues that come from poorly maintained properties. **Objective R3:** Provide for high quality of subdivision design that promotes pedestrian and bicycle access and recreational opportunities. **Policy R3.6:** Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities. **Policy R.3.7:** Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists. **Objective R4:** Encourage a mixture of densities. **Policy R4.2:** The placement of large mass buildings adjacent to smaller scale buildings shall be avoided. **Policy C1.1:** The following residential designations shall be used: e. Highway Commercial - This designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants or other visitor-serving uses. Highway Commercial nodes may be located directly adjacent to		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	SR-99 and the Whisler Interchange. 70% of the lot can be utilized for buildings. **Policy C1.7:** Prohibit blank walls along street facades. **Policy C1.8:** In order to maintain the definition of the street edge, development shall incorporate a landscaped setback buffer for parking that must be along a street frontage. **Policy C1.13:** A landscaped setback shall be planted and maintained along property line between commercial/ office uses and residential properties that have a common property line. **Policy C1.14:** A masonry wall shall be erected along the property line where commercial and office uses have a common property line with residentially designated properties. **Policy C1.15:** Discourage the construction of marginal, disjointed strip center commercial development within the City. **Policy C1.16:** Provide convenient freeway access for regionally-serving commercial centers to attract a regional customer base. **Policy C1.17:** Focus commercial retail centers adjacent to major transportation corridors. **Policy C1.18:** Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places. **Policy C1.19:** Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects. **Objective C2:** Foster well designed Highway Commercial Uses adjacent to SR-99. **Policy C2.1:** Require the use of landscaping, berms, architectural feature and other amenities to present a well-designed and inviting frontage to		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	SR-99. Outdoor storage areas shall be screened. **Policy L1.4:** Loading areas are to be located at the rear of buildings and not along the primary facade. **Policy L1.7:** Landscape buffers shall be provided between industrial buildings, parking lots and adjacent land uses. **Policy L1.8:** Discourage buildings with blank walls that lack articulation. **Policy L1.9:** Large parking fields shall be discouraged. **Policy L1.10:** All industrial areas adjacent SR-99 shall be designed so that truck bays, trash areas, loading docks and other similar area are screened from view from the highway. **Objective 1:** Achieve a balanced distribution of open space land which will provide an attractive environment essential to a sound economy. **Policy 1a:** Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl.		
Light and Glare **AES-3** Future development within the General Plan Planning Area could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.	**Policy G2.1:** Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.	**AES-2** For proposed non-residential uses that adjoin residential uses, the Project applicant shall ensure that any exterior lighting does not spill over onto the adjacent uses. The Project applicant shall prepare and submit an Outdoor Lighting Plan to the City's Planning Director for review and approval, prior to issuance of any building permit that includes a footcandle map illustrating the amount of light from the Project site at adjacent light sensitive receptors. All exterior light fixtures (including street lighting) shall be shielded or directed away from adjoining uses. Landscape lighting levels shall respond to the type, intensity, and location of use. Safety and security for pedestrians and vehicular movements shall be anticipated.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts: Short-Term Visual Character **AES-4** Project construction activities, combined with construction activities for other related cumulative projects, could temporarily degrade the visual character/quality of the development sites and their surroundings.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure AES-1.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Cumulative Impacts: Long-Term Visual Character **AES-5** Future development within the general plan planning area, combined with other related cumulative projects, could substantially degrade the existing visual character/quality of the respective development sites and their surroundings.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Light and Glare **AES-6** Future development within the general plan planning area, combined with other related cumulative projects, could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure AES-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
TRANSPORTATION AND TRAFFIC			
Forecast Year 2040 Traffic Operations **TRA-1** Project implementation could result in an increase in traffic volumes for the planning horizon year of 2040, which could impact the capacities of the intersections or roadways within the planning area.	**Objective 1:** Establish a circulation system that is consistent with the planned land use patterns of the City of McFarland as presented in the Land Use Element. **Policy 1-1:** Develop a network consisting of roads, pedestrian access, bicycle routes, and public transit that is compatible with the Land Use Element. **Policy 1-2:** The City shall develop standards for Arterial, Collector, and Local Streets. The standards for Arterial and Collector streets maybe modified so as not to require four-lanes, but rather a two-lane configuration with a median.	**TRA-1** Prior to issuance of each Building Permit, future development projects that are determined through preparation of a Traffic Impact Analysis to impact the intersections or roadways specified below, shall make a fair contribution toward implementation of the following improvements. These development projects shall be required to contribute to the implementation of mitigation measures by the payment of fair share costs, constructing the required improvement, providing right-of-way, or other actions as required by the City.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Arterials and Collector streets shall include bicycle lanes, sidewalks, and landscaping. **Policy 1-3:** The locations of major intersections of Collector and Arterial streets shall be fixed by the Circulation Element. Roadway dedications and development design shall implement the Circulation Element. **Policy 1-4:** Developers in newly developing areas shall prepare Master Plans or Specific Plans which identify future major street alignments. The City will participate in the design of street alignments in advance of development to ensure consistent and logical design of the circulation system. **Policy 1-6:** Require the dedication of rights-of-ways for streets as part of the entitlement process. **Policy 1-7:** On developed streets, where the existing right-of-way does not meet the current standards, the City of McFarland will adopt and fund a program to acquire the ultimate right-of-way where practical for Arterial and Collector streets. Funding mechanisms may include but are not limited to traffic impact fees collected from new development in relationship to the circulation effects of that new development. **Policy 1-8:** New development shall be required to mitigate traffic impacts associated with the project on State Route 99, Arterial Streets, Collector Streets, and local streets including traffic control devices, and bridges over State Route 99 and interchanges. **Policy 1-9:** The City shall promote an active policy of consolidating driveways, access points and curb cuts along existing Arterial and Collector streets when a zone change to a greater density or intensity, division of property, or new development or a major remodeling occurs. **Policy 1-10:** To help ensure that adequate and safe travel ways can be developed through existing developed areas of the City, rights-of-way	• *Intersection 1 – Browning Road/Sherwood Avenue*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-turn lane and one northbound through lane; c) Add one southbound left-turn lane and one southbound through lane; d) Add two eastbound left-turn lanes and one eastbound through lane; and e) Add one westbound left-turn lane and one westbound through lane. • *Intersection 2 – Bowman Road/Sherwood Avenue*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane; b) Add one southbound left-turn lane; c) Add one eastbound left-turn lane and one eastbound through lane; and d) Add one westbound left-turn lane and one westbound through lane. • *Intersection 3 – Driver Road/Sherwood Avenue*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane and one northbound through lane; b) Add one southbound left-turn lane one southbound through lane; c) Add one eastbound left-turn lane and one eastbound right-turn lane; and d) Add one westbound left-turn lane. • *Intersection 4 – Mast Avenue/Taylor Avenue*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	standards for each classification may be modified. **Objective 2:** Provide timely and effective means of programming and constructing street and highway improvements to maintain an overall Level of Service of "C", with a peak hour Level of Service of "D". **Policy 2-1:** Transportation projects shall be prioritized with emphasis on reducing traffic congestion and improving traffic circulation. **Policy 2-2:** Street improvements shall be prioritized with emphasis on current and forecasted service levels. Roadways experiencing or forecasted to experience conditions less than Level of Service "D" should receive the highest priority. **Objective 3:** Achieve a coordinated regional and local transportation system. **Policy 3-1:** Local circulation system improvements shall be reviewed for consistency with the Kern Council of Governments Regional Transportation Plan. **Policy 3-2:** The City will work with Caltrans to identify and implement needed improvements to State Route 99, interchanges and related local intersections. **Objective 4:** Promote maximum opportunities for pedestrian and bicycle traffic throughout the City of McFarland by continuing to develop and maintain a safe sidewalk and trail system that facilitates pedestrian and bicycle access. **Policy 4-1:** Consistent with the Land Use Element, subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet. **Policy 4-2:** Consistent with the Land Use Element, subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining	turn lane; c) Add one southbound left-turn lane; and d) Add one eastbound left-turn lane. • *Intersection 5 – Driver Road/Taylor Avenue*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane; b) Add one southbound left-turn lane; c) Add one eastbound left-turn lane; and d) Add one westbound left-turn lane. • *Intersection 6 – Garzoli Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane and one northbound through lane; b) Add one southbound left-turn lane and one southbound through lane; c) Add one eastbound left-turn lane; and d) Add one westbound left-turn lane and one westbound through lane. • *Intersection 7 – Mast Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-turn lane; c) Add one southbound left-turn lane; d) Add one eastbound left-turn lane and one eastbound through lane; and e) Add one westbound left-turn lane and one westbound through lane. • *Intersection 8 – Bowman Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection:	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	major streets is provided not greater than every 800 feet, including comers of the project. **Policy 4-3:** Consistent with the Land Use Element, the pedestrian/bicycle access may be by way of a street or a separate pedestrian/bicycle way. If a separate pedestrian/bicycle way is used, it shall not be less than 10 feet in width. Bollards or similar devices may be installed to prevent automobile use of the pedestrian/bicycle way. **Policy 4-4:** Exclusive bicycle and pedestrian access to community services, including but not limited to schools, parks, and neighborhood shopping activity centers is strongly encouraged. **Policy 4-8:** When intersection traffic warrants are met for the installation of a traffic control device, the preferred method shall be the use of a round-about, unless an engineered traffic study shows that a round-about would not be feasible at a particular location. **Objective 5:** Promote and improve access to public transit opportunities. **Policy 5-1:** New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit. **Policy 5-2:** Arterial and Collector street designs shall include future pull-outs for bus stops. **Policy 5-3:** The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules. **Objective 7:** Coordinate transit system development with community planning and development efforts, and land use policy. **Policy 7-1:** Encourage new facilities that may impact local transit services to locate within the current service area.	a) Add one northbound left-turn lane; b) Add one southbound left-turn lane; c) Add one eastbound left-turn lane and one eastbound through lane; and d) Add one westbound left-turn lane and one westbound through lane. • *Intersection 9 – Driver Road/Hanawalt Avenue*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane and one northbound through lane; b) Add one southbound left-turn lane and one southbound through lane; c) Add one eastbound left-turn lane and one eastbound right-turn lane; and d) Add one westbound left-turn lane. • *Intersection 10 – Garzoli Avenue/Whisler Road*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-turn lane; c) Add one southbound left-turn lane and one southbound right-turn lane with right-turn overlap phasing; d) Add one eastbound left-turn lane; and e) Add one westbound left-turn lane and one westbound right-turn lane. • *Intersection 11 – Mast Avenue/Whisler Road*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane; b) Add one southbound left-turn lane; c) Add one eastbound left-turn lane and one eastbound through lane; and d) Add one westbound left-turn	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy 7-2: Coordinate alternative commute programs with the private sector and other transit providers. **Objective G6:** Provide and encourage opportunities for Mixed Use and Transit-Oriented Development. **Policy G6.1:** Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas. **Policy G6.2:** Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas. **Policy G6.3:** Minimize the impacts of mixed-use or transit oriented development housing projects. **Policy G6.4:** Design mixed uses or transit-oriented development projects to: a. Create a pleasant walking environment to encourage pedestrian activity. b. Create lively streetscapes, interesting urban spaces and attractive landscaping. c. Provide convenient shopping opportunities residents close to their residences. d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project. **Policy G6.5:** Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations. **Policy G6.6:** Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. **Policy G6.7:** Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.	lane and one westbound through lane. • *Intersection 12 – Bowman Road/Whisler Road*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane; b) Add a stop-controlled southbound approach consisting of one left-turn lane and one shared through/right-turn lane; c) Add one eastbound left-turn lane and one eastbound through lane; and d) Add one westbound left-turn lane and one westbound through lane. • *Intersection 13 – Driver Road/Whisler Road*. Construct the following improvements at the existing intersection: a) Add one northbound left-turn lane; b) Add one southbound right-turn lane; and c) Add one eastbound right-turn lane. • *Intersection 14 – Browning Road/Cliff Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane; b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane; c) Eastbound: one left-turn lane and one shared through/right-turn lane; and d) Westbound: one left-turn lane and one shared through/right-turn lane. • *Intersection 15 – Browning Road/Taylor Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities. **Policy R3.7:** Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.	a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane; b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane; c) Eastbound: one left-turn lane and one shared through/right-turn lane; and d) Westbound: one left-turn lane and one shared through/right-turn lane. • *Intersection 16 – Frontage Road/Hanawalt Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Northbound: one left-turn lane and one shared through/right-turn lane; b) Southbound: one left-turn lane and one shared through/right-turn lane; c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane. • *Intersection 17 – Browning Road/Hanawalt Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane; b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane; c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		• *Intersection 18 – Browning Road/Nill Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane; b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane; c) Eastbound: one left-turn lane and one shared through/right-turn lane; and d) Westbound: one left-turn lane and one shared through/right-turn lane. • *Intersection 19 – Commercial Access/Whisler Road*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Southbound: one left-turn lane, and one shared left/right-turn lane; b) Eastbound: one left-turn lane and two through lanes; and c) Westbound: two through lanes and one right-turn lane with right-turn overlap phasing. • *Intersection 20 – Browning Road/Whisler Road*. Construct a new signalized intersection to consist of the following intersection approach geometry: a) Northbound: one left-turn lane and one shared through/right-turn lane; b) Southbound: one left-turn lane, one through lane, and one right-turn lane with right-turn overlap phasing; c) Eastbound: two left-turn lanes, one through lane, and one shared through/right-turn; and d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		• Widen Whisler Road west of Garzoli Avenue (to Stradley Avenue) from a two-lane undivided roadway to a two-lane divided roadway. • Widen Mast Avenue to its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Taylor Avenue. • Construct Mast Avenue from Taylor Avenue to Whisler Road at its ultimate cross-section width as a four-lane divided arterial roadway from Taylor Avenue to Whisler Road.	
CMP and State Highway Facilities **TRA-2** Project implementation could conflict with an applicable Congestion Management Program, including, but not limited to LOS standards and travel demand measures, or other standards established by the County Congestion Management Agency for designated road or highway.	Refer to the General Plan Objectives/ Policies outlined above.	**TRA-2** Prior to issuance of each Building Permit, future development projects that are determined through preparation of a Traffic Impact Analysis to impact the intersections or roadways specified below, shall make a fair contribution toward implementation of the following improvements. These development projects shall be required to contribute to the implementation of mitigation measures by the payment of fair share costs, constructing the required improvement, providing right-of-way, or other actions as required by the City. • *Intersection 21 – SR-99 Northbound Ramps/1st Street*. Install a traffic signal at the existing intersection. • *Intersection 22 – 1st Street/Sherwood Avenue/SR-99 Southbound Ramps*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-turn lane; c) Add one southbound left-turn lane and one southbound through lane; d) Add two eastbound left-turn lanes; and e) Add one westbound left-turn lane and one westbound through lane.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		• *Intersection 23 – SR-99 Northbound Ramps/Whisler Road*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one northbound left-turn lane; c) Add one eastbound through lane; and d) Add one westbound through lane. • *Intersection 24 – SR-99 Southbound Ramps/Whisler Road*. Construct the following improvements at the existing intersection: a) Install a traffic signal; b) Add one eastbound left-turn lane and one eastbound through lane; and c) Add one westbound through lane and one westbound right-turn lane.	
Hazardous Design Feature **TRA-3** Project implementation could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Alternative Transportation **TRA-4** Project implementation could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	**Objective 4:** Promote maximum opportunities for pedestrian and bicycle traffic throughout the City of McFarland by continuing to develop and maintain a safe sidewalk and trail system that facilitates pedestrian and bicycle access. **Policy 4-1:** Consistent with the Land Use Element, subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet. **Policy 4-2:** Consistent with the Land Use Element, subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining major streets is provided not greater than every 800 feet, including comers of the project.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy 4-3: Consistent with the Land Use Element, the pedestrian/bicycle access may be by way of a street or a separate pedestrian/bicycle way. If a separate pedestrian/bicycle way is used, it shall not be less than 10 feet in width. Bollards or similar devices may be installed to prevent automobile use of the pedestrian/bicycle way. **Policy 4-4:** Exclusive bicycle and pedestrian access to community services, including but not limited to schools, parks, and neighborhood shopping activity centers is strongly encouraged. **Policy 4-8:** When intersection traffic warrants are met for the installation of a traffic control device, the preferred method shall be the use of a round-about, unless an engineered traffic study shows that a round-about would not be feasible at a particular location. **Objective 5:** Promote and improve access to public transit opportunities. **Policy 5-1:** New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit. **Policy 5-2:** Arterial and Collector street designs shall include future pull-outs for bus stops. **Policy 5-3:** The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules. **Objective 7:** Coordinate transit system development with community planning and development efforts, and land use policy. **Policy 7-1:** Encourage new facilities that may impact local transit services to locate within the current service area. **Policy 7-2:** Coordinate alternative commute programs with the private sector and other transit providers.		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts **TRA-5** Development associated with implementation of the proposed project and other related development could result in cumulatively considerable transportation and circulation impacts.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures TRA-1 and TRA-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
AIR QUALITY			
Short-Term Construction Air Emissions **AQ-1** Short-term construction activities associated with the proposed project could result in air pollutant emission impacts or expose sensitive receptors to substantial pollutant concentrations.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Long-Term (Operational) Air Emissions **AQ-2** Potential development associated with the proposed project could result in significant impacts pertaining to operational air emissions.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G1.1:** All development shall conform to the land use density and intensity standards depicted in the General Plan. **Policy G1.2:** Establish land use policies that encourage a balance of jobs and housing. **Policy G1.3:** Encourage human-scale urban design of neighborhoods, blocks and buildings. **Policy G1.4:** Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas. **Policy G1.5:** Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.	**AQ-1** A project-specific Health Risk Assessment shall be required for new sensitive land uses such as residences, hospitals, and schools located within 500 feet of the SR-99 freeway right-of-way, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. The Health Risk Assessment shall evaluate a project per the thresholds established in the most recent version of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* document (i.e., carcinogenic risk equals or exceeds 10 in one million; acute non-carcinogenic hazard index equals or exceeds one; and/or if chronic non-carcinogenic hazard index equals or exceeds one). If projects are found to exceed the SJVAPCD's Health Risk Assessment thresholds, mitigation shall be incorporated. Mitigation measures may include mechanical ventilation systems with Minimum Efficiency Reporting Value rated filtration. **AQ-2** New sensitive land uses such as residences, hospitals, and schools shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100	Significant and Unavoidable Impact.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Objective G3: Discourage leapfrog and sprawl development. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process. **Objective G6:** Provide and encourage opportunities for Mixed Use and Transit-Oriented Development. **Policy G6.1:** Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas. **Policy G6.2:** Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas. **Policy G6.3:** Minimize the impacts of mixed-use or transit oriented development housing projects. **Policy G6.4:** Design mixed uses or transit-oriented development projects to: a. Create a pleasant walking environment to encourage pedestrian activity. b. Create lively streetscapes, interesting urban spaces and attractive landscaping. c. Provide convenient shopping opportunities residents close to their residences. d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project. **Policy G6.5:** Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations. **Policy G6.6:** Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.	heavy truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, a project-specific Health Risk Assessment shall be prepared. The Health Risk Assessment shall evaluate a project for the thresholds established in the most recent version of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* document (i.e., carcinogenic risk equals or exceeds 10 in one million; acute non-carcinogenic hazard index equals or exceeds one; and/or if chronic non-carcinogenic hazard index equals or exceeds one). If projects are found to exceed the SJVAPCD's Health Risk Assessment thresholds, mitigation shall be incorporated. Mitigation measures may include mechanical ventilation systems with Minimum Efficiency Reporting Value rated filtration.	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area. **Policy R3.6:** Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities. **Policy R.3.7:** Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists. **Policy C1.17:** Focus commercial retail centers adjacent to major transportation corridors. **Policy C1.18:** Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places. **Policy C1.19:** Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.		
Consistency With Air Quality Management Plan **AQ-3** Implementation of the proposed project could conflict with the Air Quality Management Plan.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation measures have been identified.	Significant and Unavoidable Impact.
Cumulative Impacts **AQ-4** Potential development associated with implementation of the proposed project and other related development could impact existing regional air quality levels on a cumulative basis.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures AQ-1 and AQ-2.	Significant and Unavoidable Impact.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
GREENHOUSE GAS EMISSIONS			
Greenhouse Gas Emissions **GHG-1** Greenhouse gas emissions generated by the proposed project could have a significant impact on the environment.	**Objective G1:** Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy. **Policy G1.1:** All development shall conform to the land use density and intensity standards depicted in the General Plan. **Policy G1.2:** Establish land use policies that encourage a balance of jobs and housing. **Policy G1.3:** Encourage human-scale urban design of neighborhoods, blocks and buildings. **Policy G1.4:** Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas. **Policy G1.5:** Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development. **Objective G3:** Discourage leapfrog and sprawl development. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process. **Objective G6:** Provide and encourage opportunities for Mixed Use and Transit-Oriented Development. **Policy G6.1:** Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas. **Policy G6.2:** Encourage workplace development in close proximity to	**GHG-1** Future development projects within the project area subject to a discretionary action by the City (as a result of the proposed project) shall demonstrate compliance with the SJVAPCD's three-tiered GHG emissions reduction targets/measures outlined in the most recent *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). Specifically, projects would be determined to have a less than significant individual and cumulative impact with regard to GHG emissions if one or more of the following SJVAPCD GHG emissions reduction targets is met: • Comply with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the Leady Agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the Leady Agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement the SJVAPCD's Best Performance Standards (BPS). • Implement the SJVAPCD's BPS. Implementation of the BPS would not require quantification of project specific GHG emissions. Use of BPS is a method of determining significance of project specific GHG emission impacts using established specifications or project design elements. BPS includes project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water	Significant and Unavoidable Impact.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	residences in mixed use transit-oriented development areas. **Policy G6.3:** Minimize the impacts of mixed-use or transit oriented development housing projects. **Policy G6.4:** Design mixed uses or transit-oriented development projects to: a. Create a pleasant walking environment to encourage pedestrian activity. b. Create lively streetscapes, interesting urban spaces and attractive landscaping. c. Provide convenient shopping opportunities residents close to their residences. d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project. **Policy G6.5:** Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations. **Policy G6.6:** Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. **Policy G6.7:** Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area. **Objective R2:** Provide for High Quality of Subdivision Design that supports solar energy. **Objective R3:** Provide for High Quality of Subdivision Design that promotes pedestrian and bicycle access. **Policy R3.1:** Subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet.	conservation, and the use of energy efficient appliances. • Projects not implementing BPS would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in CARB's AG 32 Scoping Plan.	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy R3.2: Subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining major streets is provided not greater than every 800 feet, including corners of the project. **Policy R3.6:** Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities. **Policy R.3.7:** Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists. **Objective R4:** Encourage a mixture of densities. **Policy C1.17:** Focus commercial retail centers adjacent to major transportation corridors. **Policy C1.18:** Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places. **Policy C1.19:** Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects. **Objective 5:** Promote and improve access to public transit opportunities. **Policy 5-1:** New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit. **Policy 5-2:** Arterial and Collector street designs shall include future pull-outs for bus stops. **Policy 5-3:** The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules.		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Objective 7: Coordinate transit system development with community planning and development efforts, and land use policy. **Policy 7-1:** Encourage new facilities that may impact local transit services to locate within the current service area. **Policy 7-2:** Coordinate alternative commute programs with the private sector and other transit providers.		
Consistency With Applicable GHG Plans, Policies, or Regulations **GHG-2** Implementation of the proposed project would not conflict with an applicable greenhouse gas reduction plan, policy, or regulation.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure GHG-1.	Significant and Unavoidable Impact.
Cumulative Impacts **GHG-3** Greenhouse gas emissions resulting from implementation of the proposed project and related development within the City could impact greenhouse gas levels on a cumulatively considerable basis.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure GHG-1.	Significant and Unavoidable Impact.
NOISE			
Short-Term Construction Noise Impacts **NOI-1** Grading and construction within the area could result in significant temporary noise impacts to nearby noise sensitive receivers.	Refer to the General Plan Objectives/ Policies outlined above.	**NOI-1** To reduce noise impacts due to construction, the City shall require future project applicants to ensure by contract specifications that construction contractors implement a site-specific noise reduction program. Subject to City review and approval, the site-specific noise reduction program shall include the following measures, ongoing through demolition, grading, and/or construction: • Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible).	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		• The City shall require that the contractor maintain and tune-up all construction equipment to minimize noise emissions. • All equipment servicing shall be performed so as to maintain the greatest possible distance to the sensitive receptors. • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of five dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible. • Stationary noise sources shall be placed so as to maintain the greatest possible distance to the sensitive receptors, and they shall be muffled and incorporate insulation barriers, or other measures to the extent feasible. • A qualified "Noise Disturbance Coordinator" will be retained amongst the construction crew who shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, malfunctioning muffler, etc.) and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the City of McFarland Planning Department.	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		• Construction activities shall not take place outside of the allowable hours specified by the County Municipal Code Section 8.36.020 (6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends). **NOI-2** Prior to the issuance of each grading permit, project applicants shall submit to the McFarland Planning Department a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction. These measures shall include the following: • A procedure and phone numbers for notifying the City of McFarland Public Works Department and City of McFarland Police Department staff (during regular construction hours and off-hours); • A sign posted on-site pertaining the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours); and • A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.	
Vibration Impacts **NOI-2** Project implementation could result in significant vibration impacts to nearby sensitive receptors.	No General Plan Objectives/Policies have been identified.	**NOI-3** The City shall require future developments to implement the following measure to reduce the potential for human annoyance and architectural/structural damage resulting from elevated groundborne noise and vibration levels. • Pile driving within a 50-foot radius of occupied units or shall utilize alternative installation methods	Less Than Significant Impact with Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		where possible (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers, etc.).	
Long-Term (Mobile) Noise Impacts **NOI-3** Traffic generated by the proposed project could significantly contribute to existing traffic noise in the area or exceed the City's established standards.	**Policy 2:** New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the design of projects to reduce noise to the following levels: a. For noise attributable to sources which are preempted from local control, such as traffic on public roadways and railroad operations, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas and 45 dB L_{dn} or less within interior living spaces. Where it is not possible to reduce exterior noise attributable to these sources to 60 dB L_{dn} or less using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB L_{dn} will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 dB L_{dn} with the windows and doors closed. It should be noted that in instances where windows and doors must remain closed in order to maintain the required acoustical isolation, air conditioning or mechanical ventilation will be required. b. For noise due to sources which are not preempted from local control, such as local industries or other stationary noise sources, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas, 45 dB L_{dn} or less within interior living spaces and the performance standards contained within Figure No. N-I.	**NOI-4** Prior to the issuance of Grading Permits, any future development along the following segments of Sherwood Avenue, Hanawalt Avenue, Whisler Road, Mast Avenue, and Browning Road that exceeds the City's land use compatibility criteria, shall be designed in compliance with the Uniform Building Code (UBC) and an Acoustical Noise Analysis shall be prepared to ensure that the City of McFarland's noise level standards defined in *McFarland General Plan Noise Element* Figure N-H, *Land Use Compatibility for Community Noise Environments*, are met at all residential, commercial, mixed-use, industrial, and public and institutional uses: • Hanawalt Avenue – Mast Avenue to Frontage Road • Mast Avenue – Taylor Avenue to Hanawalt Avenue – Hanawalt Avenue to Whisler Road	Significant and Unavoidable Impact.
Railroad Noise **NOI-4** The proposed project would not expose people to severe noise levels associated with railroad noise.	Refer to McFarland General Plan Policy 2, above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Long-Term (Stationary) Noise Impacts **NOI-5** The proposed project would not result in a significant increase in long-term stationary ambient noise levels.	In addition to the following, refer to McFarland General Plan Policy 2, above. **Policy 3:** New development of industrial, commercial or other noise-generating land uses will not be permitted if resulting noise levels will exceed 60 dB Ldn in areas containing residential or other noise-sensitive land uses. Additionally, the development of new noise generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table IV in areas containing residential or other noise-sensitive land uses.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts **NOI-5** Potential development associated with implementation of the proposed project and other related development throughout the city could result in cumulatively considerable noise impacts from mobile and stationary noise sources.	Refer to McFarland General Plan Policies 2 and 3.	Refer to Mitigation Measure NOI-4.	Significant and Unavoidable Impact.
GEOLOGY AND SOILS			
Strong Seismic Ground Shaking **GEO-1** The project could expose people or structures to potential substantial adverse effects involving strong seismic ground shaking.	**Goal SAF-2:** A community protected from loss of life or injury and damage to property due to geologic and seismic hazards. **Policy SAF-2.1:** Continue to incorporate geotechnical hazard data in future land use decision-making, site design, and construction standards. **Policy SAF-2.2:** Adopt the latest version of the building codes adopted by the State of California and ensure implementation in all new construction and renovations. **Policy SAF-2.3:** Require site-specific soils and/or geologic reports for development in areas where potentially serious geologic risks exist.	**GEO-1** Prior to the issuance of a grading permit, a site-specific geotechnical report shall be prepared by a registered geologist or soils engineer and submitted to the City Engineer, or his designee, for approval. The geotechnical report shall address potential geologic issues of concern within the area including, but not limited to, seismic ground shaking, subsidence, and expansive soils, and shall provide construction recommendations to minimize impacts. All recommendations in the geotechnical report shall be implemented during site preparation, grading, and construction. **GEO-2** Prior to the approval of final project plans for individual development projects, the City Engineer, or his	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy SAF-2.4: Monitor and enforce mitigation measures to reduce risks for projects where seismic and geologic hazards can be mitigated and prohibit development in areas where seismic and geologic hazards cannot be mitigated. **Policy SAF-2.5:** Promote the upgrade, retrofitting, and/or relocation of all existing critical facilities (e.g., police and fire stations, hospitals, schools, community centers, water facilities, public works yard, emergency access routes) and other important public facilities that do not meet current building code standards and are within areas of seismic or geologic hazard risks. **Policy SAF-2.6:** Continue to seek out opportunities to educate and encourage the community on ways to implement measures to mitigate potential injury and damage associated with earthquakes.	designee, shall confirm that all plans illustrate compliance with the most current engineering standards and requirements of the City's Building Code.	
Soil Erosion **GEO-2** The project would not result in substantial soil erosion or the loss of topsoil.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Unstable Geologic Unit or Soils **GEO-3** The proposed development could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, exposing people or structures to potential substantial adverse effects associated with landslide, lateral spreading, subsidence, liquefaction, or collapse.	**Policy SAF-2.1:** Continue to incorporate geotechnical hazard data in future land use decision-making, site design, and construction standards. **Policy SAF-2.2:** Adopt the latest version of the building codes adopted by the State of California and ensure implementation in all new construction and renovations. **Policy SAF-2.3:** Require site-specific soils and/or geologic reports for development in areas where potentially serious geologic risks exist. **Policy SAF-2.4:** Monitor and enforce mitigation measures to reduce risks for projects where seismic and geologic hazards can be mitigated and prohibit development in areas where seismic and geologic hazards cannot be mitigated.	Refer to Mitigation Measure GEO-1 and GEO-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Expansive Soils **GEO-4** The proposed project could result in development that is located on expansive soil creating substantial risks to life or property.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure GEO-1 and GEO-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Cumulative Impacts **GEO-5** The proposed project, combined with other related cumulative projects, would not expose people or structures to potential substantial adverse effects involving geology and soils.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure GEO-1 and GEO-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
CULTURAL RESOURCES			
Historical, Archaeological, and Paleontological Resources **CUL-1** Future development associated with implementation of the project could impact historical, archaeological, or paleontological resources.	**Objective 3:** Provide for environmentally sound community development in McFarland. **Policy 3-a:** Consistently analyze Environmental Review documents and submit appropriate comments. **Policy 3-b:** Regularly review Environmental Review procedures.	**CUL-1** Future development projects for properties considered to be sensitive for cultural resources by the City of McFarland shall conduct a Phase I Cultural Resources Study of the subject property by a qualified professional, which shall be submitted to the City of McFarland for review and approval. The Phase I Cultural Resources Study shall determine where the subject development project would potentially cause a substantial adverse change to any significant archaeological, paleontological, or historic resources. The Phase I Cultural Resources Study shall be prepared to meet the standards established by the City and shall, at a minimum, including the results of the following: 1. Records searches at the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, the National or State Registry of Historic Places, and any appropriate public, private, and tribal archives. 2. Sacred Lands File records search with the Native American Heritage Commission (NAHC), followed by	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		project scoping with the tribes recommended by the NAHC. 3. Field survey of the subject development site. Feasible measures shall be identified in order to mitigate the known and potential significant effects of the subject development project, if any. **CUL-2** If the Phase I Cultural Resources Study required under Mitigation Measure CUL-1 determines that monitoring during construction by a professional archaeologist and/or paleontologist is needed for the subject development project, the project proponent shall retain a professional archaeologist and/or paleontologist, subject to approval by the City of McFarland, prior to the issuance of grading permits. The task of the professional archaeologist and/or paleontologist shall be to verify implementation of the mitigation measures identified in the City-approved Phase I Cultural Resources Study and to monitor the initial ground-altering activities, including but not limited to, debris removal, vegetation removal, tree removal, grading, trenching, or other site preparation activities. The professional archaeologist and/or paleontologist shall be empowered to temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. All artifacts and/or fossils discovered at the subject development site shall be inventoried and analyzed by the professional archaeologist and/or paleontologist. If any artifacts of Native American origin are discovered, a Native American Tribal monitor shall be asked to help analyze the Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement, and function, as deemed possible. A report of the findings, including an itemized inventory of recovered artifacts and/or fossils, shall be prepared and shall include a discussion of the significance and disposition of the recovered artifacts and/or fossils. The report and inventory shall be submitted to the City of McFarland, signifying	

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		completion of the program to mitigate impacts to archaeological and/or paleontological resources. **CUL-3** In the event that cultural resources (archaeological, historical, paleontological) resources are inadvertently unearthed during excavation and grading activities of any future development project, the contractor shall immediately cease all earth disturbing activities within a 100-foot radius of the area of discovery. If not already retained due to conditions present pursuant to CUL-2, the project proponent shall retain a qualified professional (i.e., archaeologist, historian, architect, paleontologist, Native American Tribal monitor), subject to approval by the City of McFarland, to evaluate the significance of the finding and appropriate course of action (refer to Mitigation Measures CUL-1, CUL-2 and CUL-4). If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the CEQA Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.	
Human Remains **CUL-2** Project implementation could disturb human remains, including those interred outside of formal cemeteries.	No General Plan Objectives/Policies have been identified.	**CUL-4** In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendant of the deceased Native American, who shall serve as consultant on how to proceed with the remains.	Less Than Significant Impact With Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts **CUL-3** Potential development associated with implementation of the proposed project and other related development could result in cumulatively considerable impacts to cultural resources.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures CUL-1 through CUL-4.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
BIOLOGICAL RESOURCES			
Special Status Plant and Wildlife Species **BIO-1** Project implementation could have an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status.	**Policy 1-a:** Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl. **Objective 3:** Provide for environmentally sound community development in McFarland. **Policy 3-1:** Consistently analyze Environmental Review documents and submit appropriate comments. **Policy 3-b:** Regularly review Environmental Review procedures.	**BIO-1** Prior to any development within the project site, a focused survey of the proposed development site within and adjacent to agricultural land shall be conducted by a qualified Biologist, prior to any ground disturbance, for tricolored blackbird, burrowing owl, and Swainson's hawk. If any of these species, or any other birds, are found actively nesting on-site, nest avoidance measures shall be required. These typically consist of a 250-foot buffer for non-listed passerines and a 500-foot buffer for listed species and raptors. Construction can only continue after all young fledge or the nest otherwise becomes inactive under natural conditions. **BIO-2** Prior to any development of the project site, the current status of the Kern County's Valley Floor Habitat Conservation Plan (HCP) shall be ascertained so that the development can remain consistent with the HCP's goals, if applicable. San Joaquin kit fox surveys may be required under the final HCP. If the HCP is finalized prior to the development of the project site, it may contain more specific survey requirements for covered species. If the final HCP contains any species-specific take coverage conditions (e.g. surveys, mitigation), they shall be conformed to in order for the project to remain in compliance with take permits.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Jurisdictional Waters and Wetlands **BIO-2** Project implementation could have a substantial adverse effect on federally protected wetlands.	Refer to the General Plan Objectives/ Policies outlined above.	**BIO-3** Prior to any development of the project site, a jurisdictional assessment shall be conducted as part of a field investigation to ensure no jurisdictional "waters of the United States", as regulated by the U.S. Army Corps of Engineers (Corps) would be impacted as a result of site development. The jurisdictional assessment would also require an assessment of agricultural stock ponds to determine if they would qualify as "waters of the State" and fall under the jurisdiction of the Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW). If any jurisdictional features are found on-site, activities impacting these features may require a Clean Water Act (CWA) Section 404 permit from the Corps, CWA Section 401 Water Quality Certification from the Regional Board, and/or a Section 1602 Streambed Alteration Agreement from CDFW.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Movement of Migratory Species **BIO-3** Implementation of the proposed project could interfere with the movement of a native resident or migratory species.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure BIO-1.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Policies Protecting Biological Resources **BIO-4** Project implementation would not conflict with policies protecting biological resources.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures BIO-1 through BIO-3.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Kern County Valley Floor Habitat Conservation Plan **BIO-5** Implementation of the proposed project would not conflict with the Kern County Valley Floor Habitat Conservation Plan.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure BIO-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts **BIO-6** Development associated with project implementation combined with cumulative development could result in cumulatively considerable impacts to biological resources.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures BIO-1 through BIO-3.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
AGRICULTURE AND FORESTRY RESOURCES			
Conversion of Farmland **AGR-1** The project could convert prime farmland, unique farmland, or farmland of statewide importance (farmland), as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.	**Objective 1:** Achieve a balanced distribution of open space land which will provide an attractive environment essential to a sound economy. **Policy 1-a:** Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl. **Objective 2:** Encourage activities that give McFarland its unique "Small Farm Town" atmosphere. **Objective G5:** Protect Agricultural Land. **Policy G5.1:** Agricultural production areas shall be preserved as an important economic activity. **Policy G5.3:** The City shall phase future growth and development to provide for orderly growth and prevent the premature conversion of agricultural lands. **Policy G5.5:** Development projects shall pay an Agricultural Land Impact fee in accordance with the fee established by the City Council of the City of McFarland. **Policy G5.6:** For single-family residential uses, a fee shall be assessed upon the sale of a residential unit within a project that was subject to the Agricultural Land Impact fee in accordance with the fee established by the City Council of the City of McFarland. **Policy G5.7:** Said fee shall be collected by the City for use by a land conservancy entity operating within the	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	County of Kern to conserve agricultural land. **Policy G5.8:** The City shall work with the land conservancy to have the first priority of conserving agricultural land to be within the McFarland area. **Policy G5.9:** A Land Evaluation and Site Assessment Model analysis shall be performed for annexation projects to determine the significance of impact to agricultural resources.		
Conflict With Existing Zoning or Williamson Act Contract **AGR-2** The project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Agricultural Resources **AGR-3** Development associated with implementation of the proposed project and other cumulative development could result in cumulatively considerable impacts to agricultural resources.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
MINERAL RESOURCES			
Regional or State Mineral Resources **MR-1** The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Locally Important Mineral Resources **MR-2** The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local General Plan, Specific Plan, or other Land Use Plan.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts to Regional, State, or Locally Important Mineral Resources **MR-3** The project would not cumulatively contribute to the loss of availability of a regional, state, or locally important mineral resource.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
HYDROLOGY AND WATER QUALITY			
Water Quality **HWQ-1** Implementation of the proposed project could violate water quality standards and waste discharge requirements.	**Objective 3:** Provide for environmentally sound community development in McFarland.	**HWQ-1** Prior to issuance of any Grading or Building Permit, and as part of the future development's compliance with the NPDES requirements, a Notice of Intent shall be prepared and submitted to the Central Valley RWQCB providing notification and intent to comply with the State of California General Construction Permit. Also, a Stormwater Pollution Prevention Plan (SWPPP) shall be reviewed and approved by the Director of Public Works and the City Engineer for water quality construction activities on-site. A copy of the SWPPP shall be available and implemented at the construction site at all times. The SWPPP shall outline the source control and/or treatment control Best Management Practices (BMPs) to avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable." All recommendations in the SWPPP shall be implemented during area preparation, grading, and construction. The applicant(s) shall comply with each of the recommendations detailed in the SWPPP, and other such measure(s) as the City deems necessary to mitigate potential stormwater runoff impacts. **HWQ-2** Prior to issuance of any Grading Permit, future development projects shall prepare, to the satisfaction of the Director of Public Works and the City Engineer, a Water Quality Management Plan or Stormwater Mitigation Plan, which includes Best Management Practices (BMPs). All recommendations in the Plan shall be implemented during post construction/operation phase. The applicant(s) shall comply with each of the recommendations detailed in the Plan, and other such measure(s) as the	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
		City deems necessary to mitigate potential water quality impacts.	
Groundwater Depletion **HWQ-2** Development associated with implementation of the proposed project could deplete groundwater supplies.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Drainage System Capacity **HWQ-3** Development associated with implementation of the proposed project could create or contribute to runoff water which could exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	**Policy SAF-3.1:** Continue to work with the appropriate local, State, and Federal agencies to maintain the most current flood hazard and floodplain information and use it as a basis for project review and to guide development. **Policy SAF-3.2:** Actively promote and participate in a regional drainage analysis and implementation of regional and local flood control measures to reduce regional flooding conditions within the City. **Policy SAF-3.3:** Continue to participate in the National Flood Insurance Program (NFIP) and ensure that City regulations are in full compliance with the standards adopted by the Federal Emergency Management Agency (FEMA). **Policy SAF-3.4:** Implement recommendations contained in the McFarland Storm Drain Master Plan that are within the City's jurisdiction. **Policy SAF-3.5:** Minimize flood risks associated with existing development. **Policy SAF-3.6:** Require evaluation of potential flood hazards prior to approval of development projects. **Policy SAF-3.7:** Identify construction or other methods to minimize damage if new development is located in flood hazard zones. **Policy SAF-3.8:** Prohibit new development within the 100-year flood zone unless it can be shown that the development will not: • Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use.	Refer to Mitigation Measures HWQ-1 and HWQ-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• Create difficult emergency vehicle access in times of flood. • Create a safety hazard due to the unexpected heights velocity, duration, rate of rise and sediment transport of the flood waters at the site. • Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities. • Interfere with the existing waterflow capacity of the floodway. • Substantially increase erosion and/or sedimentation. • Contribute to the deterioration of a watercourse or the quality of water in any body of water. • Require storage of material, or any substantial grading or placement of fill. • Change the water storage/volume capacity of the flood basin. **Policy SAF-3.9:** Require that essential public facilities be located and designed to mitigate potential flood risk to ensure long term operation. **Policy SAF-3.10:** Promote low impact development techniques and design features such as pervious paving, on-site groundwater recharge, rainwater harvesting, minimization of building footprints, and bioretention to improve defensive measures against storm events and stormwater pollution. **Policy SAF-3.11:** Educate property owners and residents located in flood hazard areas about opportunities to mitigate flood hazards and damage, implementation of flood preparation activities, and evacuation and recovery efforts associated with a flooding event. **Policy SAF-3.12:** Continue to support efforts of the Bureau of Reclamation to ensure that proper maintenance and repairs of the Friant-Kern Canal are accomplished.		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Drainage Patterns **HWQ-4** Development associated with implementation of the proposed project could result in alteration of drainage patterns of the site or area, including alteration of a stream or river, resulting in substantial erosion, flooding, or significant risk of loss.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Flooding **HWQ-5** Development associated with implementation of the proposed project could result in impacts related to a 100-year flood event.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Water Quality **HWQ-6** Implementation of the proposed project could result in cumulative considerations regarding the violation of water quality standards and waste discharge requirements.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures HWQ-1 and HWQ-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Cumulative Impacts: Groundwater Depletion **HWQ-7** Development associated with implementation of the proposed project could result in in cumulative considerations regarding the depletion of groundwater supplies.	No General Plan Objectives/Policies have been identified.	No additional mitigation is required.	Less Than Significant Impact.
Cumulative Impacts: Drainage System Capacity **HWQ-8** Development associated with implementation of the proposed project could create or contribute to runoff water which could cumulatively exceed the capacity of existing or planned storm water drainage systems for provide substantial additional sources of polluted runoff.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures HWQ-1 and HWQ-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts: Drainage Patterns **HWQ-9** Development associated with implementation of the proposed project could result in the alteration of drainage patterns of the site or area, including alteration of a stream or river, resulting in substantial cumulatively considerable erosion, flooding, or significant risk of loss.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Flooding **HWQ-10** Development associated with implementation of the proposed project could result in cumulative considerations impacts related to a 100-year flood event.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
HAZARDS AND HAZARDOUS MATERIALS			
Hazardous Materials Use, Generation, Transport, or Disposal **HAZ-1** Future development in accordance with the proposed project could result in an increased risk associated with the routine use, generation, transport, or disposal of hazardous materials, which may potentially pose a health or safety hazard to the public or the environment.	**Goal SAF-4:** A community protected from the harmful effects of hazardous materials, hazardous waste, and environmental contamination. **Policy SAF-4.1:** Ensure that land uses involved in the production, storage, transportation, handling, or disposal of hazardous materials are located and operated to reduce risk to other land uses. **Policy SAF-4.2:** When approving new development, ensure that the site: • Is sufficiently surveyed for contamination and remediation, particularly for sensitive uses near existing or former toxic or industrial sites. • Is adequately remediated to meet all applicable laws and regulations, if necessary. • Is suitable for human habitation. • Is protected from known hazardous and toxic materials.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• Does not pose higher than average health risks from exposure to hazardous materials. **Policy SAF-4.3:** Monitor the operations of businesses and individuals that handle hazardous materials through the planning and business permit processes. **Policy SAF-4.4:** Work with the appropriate Federal, State, regional, and local agencies to identify previously unidentified contaminated sites in the City, particularly on sites with a high likelihood of past contamination, such as old gas stations or industrial sites, and work with the property owners and applicable agencies to remediate them. **Policy SAF-4.5:** Ensure the safe transport of hazardous materials through the City by: • Restricting transport of hazardous materials within McFarland to designated routes. • Prohibiting the parking of vehicles transporting hazardous materials on City streets. • Requiring new pipelines or other channels carrying hazardous avoid residential areas to the greatest extent possible. **Policy SAF-4.6:** Support Caltrans and California Highway Patrol efforts to ensure safe transportation of hazardous materials on SR-99. **Policy SAF-4.7:** Educate residents and businesses on how to reduce or eliminate the use of hazardous materials and products, and encourage the use of safer, nontoxic, environmentally friendly equivalents. **Policy SAF-4.8:** Raise public awareness of appropriate disposal for household hazardous waste, and publicize collection events and locations.		

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Accidental Release of Hazardous Materials **HAZ-2** Accidental release of hazardous materials used, stored, or transported in the city as a result of implementation of the proposed project could result in a public health risk.	Refer to the General Plan Objectives/ Policies outlined above.	**HAZ-1** If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following: • Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area; • Notify the City's Project Engineer; • Secure the area as directed by the Project Engineer; and • Notify the implementing agency's Hazardous Waste/Materials Coordinator. The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Hazardous Materials Sites **HAZ-3** Future development associated with implementation of the proposed project could impact hazardous material sites listed on Government Code Section 65962.5 and create a significant hazard to the public or the environment.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure HAZ-1.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Emergency Response **HAZ-4** Future development associated with the proposed project could result in interference with an Adopted Emergency Response or Evacuation Plan.	**Policy SAF-6.1:** Continue to implement emergency preparedness and response measures in coordination with Kern County's Emergency Operations Plan. **Policy SAF-6.2:** Conduct periodic trainings with staff and/or participate in Kern County trainings on emergency operations procedures and response. **Policy SAF-6.3:** Support policies and programs that ensure adequate resources are available to respond to health, fire, and police emergencies. **Policy SAF-6.4:** Investigate and seek out opportunities to improve emergency	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	access and circulation throughout the community, especially between the east and west sides of the City. **Policy SAF-6.5:** Provide residents and businesses with information about local safety hazards and emergency plans, including evacuation plans and procedures to accommodate special needs populations and efficient post-disaster recovery. **Policy SAF-6.6:** Support policies and programs to involve and educate the community in emergency preparedness. **Policy SAF-6.7:** Collaborate with the school district, businesses, nonprofit organizations, and community members/groups to maintain safety throughout the City. **Policy SAF-6.8:** Involve the Police Department in the development review process to address safety concerns, access issues, and potential traffic conflicts, and identify opportunities to apply Crime Prevention Through Environmental Design (CPTED) principles.		
Cumulative Hazardous Materials Impacts **HAZ-5** Development associated with implementation of the proposed project and cumulative development could result in cumulatively considerable impacts to public health and safety.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measure HAZ-1.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
PUBLIC SERVICES AND UTILITIES			
Fire Protection Services **PSU-1** Project implementation would not result in substantial adverse physical impacts associated with the increased demand for fire protection services.	**Policy SAF-1.1:** Support projects, programs, policies, and regulations to mitigate potential impacts associated with natural and man-made hazards. **Policy SAF-1.5:** Investigate and pursue available funding sources to fund safety programs, provide services, upgrade/construct facilities, and purchase equipment. **Policy SAF-5.1:** Continue to coordinate fire protection services with Kern County	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Fire Department to ensure sufficient capacity, stations, personnel, and equipment are available to meet growth needs in McFarland for fire protection and related emergency services. **Policy SAF-5.2:** Ensure adequate water supply and water pressure is provided throughout the City for firefighting purposes. **Policy SAF-5.3:** Ensure all new development provides adequate access for emergency vehicles and evacuation. **Policy SAF-5.4:** Regularly update building and fire codes to provide for fire safety design. **Policy SAF-5.5:** Promote public safety education programs to reduce accidents, injuries, and fires, as well as to train members of the public to respond to emergencies.		
Police Protection Services **PSU-2** Project implementation would not result in substantial adverse physical impacts associated with the increased demand for police protection services.	**Policy SAF-1.1:** Support projects, programs, policies, and regulations to mitigate potential impacts associated with natural and man-made hazards. **Policy SAF-1.5:** Investigate and pursue available funding sources to fund safety programs, provide services, upgrade/construct facilities, and purchase equipment. **Policy SAF-6.2:** Conduct periodic trainings with staff and/or participate in Kern County trainings on emergency operations procedures and response. **Policy SAF-6.3:** Support policies and programs that ensure adequate resources are available to respond to health, fire, and police emergencies. **Policy SAF-6.8:** Involve the Police Department in the development review process to address safety concerns, access issues, and potential traffic conflicts, and identify opportunities to apply Crime Prevention Through Environmental Design (CPTED) principles.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Schools **PSU-3** Project implementation would not result in substantial adverse physical impacts associated with the provision of school facilities and services.	**Objective P2:** Provide adequate school sites and school site expansion to meet school facility needs in a timely manner provided by law. **Policy P2.1:** Coordinate school location and site design with the school districts to ensure that adequate facilities are available. **Policy P2.3:** Elementary schools should be located at collector/local street intersections that have good pedestrian and bike access. Schools should abut neighborhood parks with adjacent development backing or siding onto the school. Pedestrian and bicycle access should be provided. **Policy P2.4:** Intermediate or Junior High schools should be located in residential areas with a central location for surrounding area elementary schools at collector/collector or collector/local street intersections. Additional local street frontage is desired for transition to residential areas. Maximize pedestrian and bicycle access and on/off site circulation. These schools should be located so that there are future expansion opportunities. **Policy P2.5:** High Schools should be located at arterial/collector Intersections with additional frontage on at least one other street. These sights should be located for future expansion. **Policy P2.6:** New commercial development should be discouraged within a minimum of a mile of school sites. **Policy P2.7:** High density residential complexes abutting school sites should be discouraged. **Policy P2.8:** The City, School District, and Park District shall encourage joint use of school multipurpose facilities and open space. **Policy P2.9:** The Schools District shall be encouraged to coordinate their school location, facility construction and phasing with City's development	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	guidelines contained in the Land Use Element and the City's Capital Improvement Plan to ensure that school facilities are located In areas where there are planned and programmed streets, sewerage, storm drainage systems and other necessary infrastructure. **Policy P2.10:** It is the policy of the City of McFarland that adequate school facilities be available to serve new development. In implementing this policy both the City and School District recognize that State law provides that the provision of school facilities is the exclusive responsibility of the State and the School District. However, since the potential may still exist that sources of financing, Including statutory developer fees, state and local school bond monies and other state funds will be Inadequate, and the City shall work with the School District to Identify opportunities for joint funding of recreation and community facilities at school sites.		
Parks and Recreation **PSU-4** Project implementation would not result in substantial adverse physical impacts associated with the increased use of park/recreational facilities.	**Policy 1-b:** Reserve adequate sites in neighborhoods and unincorporated areas for future schools, parks, and other public facilities.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Library Facilities **PSU-5** Project implementation would not result in substantial adverse physical impacts associated with the increased use of library facilities.	Refer to General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Water Supplies **PSU-6** Sufficient water supplies may not be available to serve the project from existing entitlements and resources; new or expanded entitlements could be needed.	**Objective 3:** Provide for environmentally sound community development in McFarland. **Policy 3-a:** Consistently analyze Environmental Review documents and submit appropriate comments. **Policy SAF-5.2:** Ensure adequate water supply and water pressure is provided throughout the City for firefighting purposes.	**PSU-1** Prior to issuance of any Grading Permit, the project Applicant shall submit written confirmation, for the review and approval by the City of McFarland Public Works Department, that the project has secured water supply rights in compliance with applicable groundwater regulations in place at that time.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	Policy G3.2: The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue. **Policy G3.3:** Annexation projects shall be contiguous to the City and be a logical extension of the City's boundary and public facilities and services. Annexation of non-contiguous areas may be allowed for industrial or commercial uses to support economic development priorities. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.		
Water Facilities **PSU-7** Project implementation would result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Refer to the General Plan Objectives/ Policies outlined above.	**PSU-2** Prior to building permit issuance, the project applicant shall demonstrate to the City of McFarland Public Works Department that the proposed connection points have been sized to provide full service within the project site based upon the appropriate piping size that would be able to convey the maximum day demand plus the required fire flow determined by the City of McFarland Public Works Department.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Wastewater Facilities **PSU-8** Project implementation could require or result in the construction of new wastewater conveyance/treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	**Objective 3:** Provide for environmentally sound community development in McFarland. **Policy 3-a:** Consistently analyze Environmental Review documents and submit appropriate comments. **Policy G3.2:** The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue. **Policy G3.3:** Annexation projects shall be contiguous to the City and be a logical extension of the City's boundary and public facilities and services. Annexation of non-contiguous areas	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	may be allowed for industrial or commercial uses to support economic development priorities. **Policy G4.3:** Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.		
Solid Waste **PSU-9** The project would not result in significant impacts related to solid waste landfill capacities and would not conflict with federal, state, or local statutes and regulations related to solid waste.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Dry Utilities **PSU-10** The project would not result in significant impacts to other public facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Fire Protection Services **PSU-11** Development associated with project implementation combined with development anticipated by the General Plan could result in cumulatively considerable impacts to fire protection services and facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Police Protection Services **PSU-12** Development associated with project implementation combined with development anticipated by the General Plan could result in cumulatively considerable impacts to police protection services and facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts: Schools **PSU-13** Development associated with project implementation combined with development anticipated by the General Plan could result in cumulatively considerable impacts to school facilities and services.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Parks and Recreation **PSU-14** Development associated with project implementation combined with development anticipated by the General Plan could result in cumulatively considerable impacts to parks and recreational facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Library Facilities **PSU-15** Development associated with project implementation combined with development anticipated by the General Plan could result in cumulatively considerable impacts to parks and recreational facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Water Supplies and Facilities **PSU-16** Development associated with implementation of the proposed project and other related development could cumulatively impact water supplies and systems.	Refer to the General Plan Objectives/ Policies outlined above.	Refer to Mitigation Measures PSU-1 and PSU-2.	Less Than Significant Impact with General Plan Objectives/ Policies and Mitigation Incorporated.
Cumulative Impacts: Wastewater Facilities **PSU-17** Development associated with implementation of the proposed project and other related development could require or result in the construction of new wastewater conveyance/treatment facilities or expansion of existing facilities.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

IMPACTS	GENERAL PLAN OBJECTIVES/POLICIES	PROJECT MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts: Solid Waste **PSU-18** Development associated with project implementation and other related development could result in cumulatively considerable impacts to the permitted capacities of the landfills serving the City.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.
Cumulative Impacts: Electricity and Natural Gas **PSU-19** Development associated with project implementation and other related development could result in cumulatively considerable impacts to electricity and natural gas service in the City.	Refer to the General Plan Objectives/ Policies outlined above.	No additional mitigation is required.	Less Than Significant Impact with General Plan Objectives/ Policies Incorporated.

1.5 SUMMARY OF PROJECT ALTERNATIVES

"NO PROJECT/EXISTING GENERAL PLAN LAND USE" ALTERNATIVE

In accordance with the CEQA Guidelines, "the no project analysis shall discuss the existing conditions …, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." The CEQA Guidelines continue to state that "in certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained."

The "No Project/Existing General Plan Land Use" Alternative, which is the reasonably foreseeable development alternative, includes a discussion and analysis of what would be reasonably expected to occur in the foreseeable future if the project were not approved, and future development would continue to occur consistent with the City's existing General Plan Land Use Element and Land Use Map. Under this Alternative, no amendments to the General Plan Land Use Element would occur; thus, the Highway Commercial and Mixed-Use designations and associated objectives and policies would not be adopted. Additional modifications to the objectives and policies to address future development within the City would not occur. Land use designations for properties within the City would remain unchanged. Further, land use designations would not be identified for areas within the SOI to demonstrate the type of development and uses the City would encourage and support as part of future annexation opportunities. The SOI would remain in its current state with implementation of this Alternative. Any future development in the SOI would occur consistent with the existing County land use and zoning designations. Annexation of any portion of the SOI into the City would not occur under this Alternative.

"REDUCED RESIDENTIAL DEVELOPMENT" ALTERNATIVE

The "Reduced Residential Development" Alternative would amend the General Plan Land Use Element similar to the proposed project by introducing two new land use designations (Highway Commercial and Mixed-Use) and providing new and/or modified objectives and policies to address future development within the City. Similar to the project, this Alternative would amend the Land Use map, changing the land use designations for several properties within the City limits to either reflect current development or guide future development of vacant and underutilized land and establish land use designations within the SOI in anticipation of future annexation. However, this Alternative would allow for the development of fewer residential units and an increase in light and heavy industrial uses.

"PROPOSED PROJECT WITH HANAWALT INTERCHANGE" ALTERNATIVE

The "Proposed Project with Hanawalt Interchange" Alternative would amend the General Plan Land Use Element similar to the proposed project by introducing two new land use designations (Highway Commercial and Mixed-Use) and providing new and/or modified objectives and policies to address future development within the City. Similar to the project, this Alternative would amend the Land Use map, changing the land use designations for several properties within the City limits to either reflect current development or guide future development of vacant and underutilized land and establish land use designations within the SOI in anticipation of future annexation and development. This Alternative assumes a modified circulation system when compared to the proposed project. The City of McFarland, in cooperation with the California Department of Transportation (Caltrans), is developing a Project Study Report-Project Development Support (PSR-PDS) for constructing an interchange at the junction of SR-99 and Hanawalt Avenue. The SR-99/Hanawalt Avenue Interchange Project (Interchange Project) is a separate project from the proposed project. However, this Alternative assumes that the Interchange Project is constructed. This Alternative also assumes that overcrossings at Taylor Avenue and Nill Avenue are provided. Although these infrastructure improvements would likely result in an overall reduction in the development potential of the planning area, because a preferred alternative has not been identified or approved, for purposes of this analysis, it is assumed that this Alternative would involve the same land uses and estimated development potential as the project.

"ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

Table 7-4, *Comparison of Alternatives*, summarizes the comparative analysis presented above (i.e., the alternatives compared to the proposed project). Review of Table 7-4 and the analysis presented above indicates the No Project/Existing General Plan Land Use Alternative is the environmentally superior alternative, as this alternative would avoid or lessen impacts associated with development of the proposed project. According to CEQA Guidelines Section 15126.6(e), *"No Project" Alternative*, "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Accordingly, the Proposed Project with Hanawalt Interchange is the environmentally superior alternative. Although the projects' significant and unavoidable impacts would not be avoided, this Alternative would achieve all of the proposed project's basic objectives.

The Proposed Project with Hanawalt Interchange Alternative would attain all of the project's basic objectives. This Alternative would update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would also facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. New opportunities for future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would be created within the City that would contribute to an improved jobs/housing balance. Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would be promoted. Opportunities for a variety of housing options to serve the needs of the community would result and new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

Further, the No Project/Existing General Plan Land Use Alternative would not attain any of the proposed project's basic objectives. This Alternative would not update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would not be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would not facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. No new opportunities for future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would not be created within the City, to the scale of the proposed project, which would contribute to an improved jobs/housing balance. Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would not be promoted. No increase in opportunities for a variety of housing options to serve the needs of the community would occur and no new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

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SECTION 2.0
Introduction and Purpose

2.0 INTRODUCTION AND PURPOSE

2.1 PURPOSE OF THE EIR

The City of McFarland (City) is the lead agency under the California Environmental Quality Act (CEQA), and has determined that an Environmental Impact Report (EIR) is required for the General Plan Amendment (State Clearinghouse No. 2015081006). This EIR has been prepared in conformance with CEQA (California Public Resources Code [PRC] Section 21000 et seq.); *CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementation of CEQA, as adopted by the City of McFarland. The principal CEQA Guidelines sections governing content of this document are Sections 15120 through 15132 (Contents of Environmental Impact Reports) and Section 15168 (Program EIR).

The purpose of this EIR is to review the existing conditions, analyze potential environmental impacts, and identify feasible mitigation measures to avoid or lessen potentially significant effects of the proposed General Plan Amendment (project) to amend the Land Use Element to add two new land use designations, establish new policies and objectives associated with the new land use designations and other development within the planning area, and amend the Land Use Map to assign land uses to specific areas within the sphere of influence (SOI) and change existing land use designations for several properties within the City boundaries. The proposed project would affect properties citywide. The area proposed for General Plan Land Use changes is generally located south of Sherwood Avenue, east of SR-99 and south of Taylor Avenue, west of SR-99; east of Garzoli Avenue; West of Driver Road; and North of Whisler Road, in the City of McFarland. For more detailed information regarding the proposed project, refer to Section 3.0, *Project Description*.

This EIR has been prepared as a Program EIR in accordance with Section 15168 of the CEQA Guidelines, which states the following:

(a) General. A Program EIR is an EIR, which may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically,
(2) As logical parts in the chain of contemplated actions,
(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

(b) Advantages. Use of a Program EIR can provide the following advantages. The Program EIR can:

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and

(5) Allow reduction in paperwork.

(c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the Program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

CEQA Guidelines Section 15168 describes the proper process for Program EIRs, as follows (emphasis added):

> *Use of the Program EIR also enables the Lead Agency to characterize the overall program as the project being approved at that time. Following this approach when individual activities within the program are proposed, the agency would be required to examine the individual activities within the program to determine whether their effects were fully analyzed in the Program EIR. If the activities would have no effects beyond* those analyzed in the Program EIR, the agency could assert that the activities are merely part of the program, which had been approved earlier, and no further CEQA compliance would be required. This approach offers many possibilities for agencies to reduce their costs of CEQA compliance and still achieve high levels of environmental *protection.*

In accordance with Section 15121 of the CEQA Guidelines, the main purposes of this EIR are to:

- Provide decision-makers and the public with specific information regarding the environmental effects associated with the proposed project;
- Identify ways to minimize the significant effects of the project; and
- Describe reasonable alternatives to the project.

Mitigation measures are provided that may be adopted as conditions of approval to avoid or minimize the significance of impacts resulting from the project. In addition, this EIR is the primary reference document in the formulation and implementation of a mitigation monitoring program for the proposed project.

The City of McFarland (which has the principal responsibility of processing and approving the project) and other public (i.e., responsible and trustee) agencies that may use this EIR in the decision-making or permit process will consider the information in this EIR, along with other information that may be presented during the CEQA process. Environmental impacts are not always able to be mitigated to a level considered less than significant; in those cases, impacts are considered significant unavoidable impacts. In accordance with Section 15093(b) of the CEQA Guidelines, if a public agency approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the project, based on the Final EIR and any other information in the public record for the project. This is termed, per Section 15093 of the CEQA Guidelines, a "statement of overriding considerations."

This document analyzes the environmental effects of the project to the degree of specificity appropriate to the current proposed actions, as required by Section 15146 of the CEQA Guidelines. The analysis considers the activities associated with the project to determine the short-term and long-term effects associated with their implementation. This EIR discusses both the direct and indirect impacts of this project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

2.2 COMPLIANCE WITH CEQA

PUBLIC REVIEW OF DRAFT EIR

The Draft EIR is subject to a 45-day review period by responsible and trustee agencies, the public and any interested parties. In accordance with the provisions of Sections 15085(a) and 15087(a)(1) of the CEQA Guidelines, as amended, the City of McFarland, serving as the Lead Agency shall (1) publish a Notice of Availability (NOA) of a Draft EIR; and (2) prepare and transmit a Notice of Completion (NOC) to the California State Clearinghouse.

Any public agency or members of the public desiring to comment on the Draft EIR must submit their comments in writing to the lead agency indicated on the document's NOC prior to the end of the public review period. Written comments can be mailed or faxed to the following address or fax number:

City of McFarland
401 West Kern Avenue
McFarland, California 93250
Attention: Mr. Dennis McNamara
Fax: (661) 792-3093

Additionally, written comments can be sent via email to the following email address:

dmcnamara@mcfarlandcity.org

The Lead Agency will evaluate and prepare responses to all relevant written comments received from both citizens and public agencies during the public review period.

FINAL EIR

The Final EIR will consist of the Draft EIR, revisions to the Draft EIR (if any) and responses to all written comments. At least ten days prior to the certification hearing, responses to the comments made by public agencies on the Draft EIR will be provided to the commenting agencies.

2.3 EIR SCOPING PROCESS

In compliance with the CEQA Guidelines, the City of McFarland has maximized opportunities for the public to participate in the environmental review process. During preparation of this Program EIR, efforts were made to contact various Federal, State, regional and local government agencies and other interested parties to solicit comments on the proposed project.

Due to the decision to prepare a Program EIR, an Initial Study Environmental Checklist was not prepared. This option is permitted under CEQA Guidelines Section 15063(a), which states that if the Lead Agency determines an EIR will be required for a project, the Lead Agency may skip further initial review and begin work on the EIR.

NOTICE OF PREPARATION

Pursuant to CEQA Guidelines Section 15082, as amended, the City circulated a Notice of Preparation (NOP) for a 30-day period, beginning August 5, 2015 and ending September 3, 2015; refer to Appendix A, *Notice of Preparation and Comment Letters*. The purpose of the NOP was to formally announce that the City was preparing a Draft Program EIR for the project and that as Lead Agency, was soliciting input regarding the scope and content of the environmental information to be included in the Program EIR. An Initial Study Checklist was not prepared or circulated with the NOP.

The Program EIR will focus on the following environmental issues:

- Aesthetics;
- Agriculture and Forest Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;

- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Transportation/Traffic; and
- Utilities and Service Systems.

NOP AND SCOPING RESULTS

The specific environmental concerns outlined below were raised by responses to the NOP for the proposed project. The numerical reference in parenthesis is the EIR section in which the analysis is provided. All NOP comment letters are included in Appendix A. The following summarizes the primary environmental issues raised in the NOP comment letters and identifies the EIR section where they are addressed:

- Adequacy of existing and proposed school facilities within the City to accommodate the project (refer to Section 5.15, *Public Services and Utilities*); and

- Traffic impacts to regional roadway facilities (refer to Section 5.4, *Transportation and Traffic*).

DRAFT EIR PUBLIC REVIEW

The Draft Program EIR is subject to a 45-day public review period by responsible and trustee agencies and interested parties. In accordance with CEQA Guidelines Sections 15085(a) and 15087(a)(1), the City of McFarland, serving as the Lead Agency, has: 1) published a Notice of Availability (NOA) to the public of a Draft Program EIR; and 2) prepared and transmitted a Notice of Completion (NOC) to the California State Clearinghouse. Proof of publication is available at the City of McFarland Community Development Department.

The primary purpose of the EIR is to inform the public and decision makers about the potential impacts associated with project implementation. Any public agency or members of the public desiring to comment on the Draft Program EIR must submit their comments in writing to the Lead Agency at the address specified on the NOC, prior to the end of the public review period. The Lead Agency will evaluate and prepare responses to all written comments received from both citizens and public agencies during the public review period.

FINAL PROGRAM EIR

The Final Program EIR will consist of the Draft Program EIR, a list of persons and/or agencies commenting on the Draft Program EIR, responses to the comments received during the public review period, and revisions to the Draft Program EIR, as necessary. After the Final Program EIR is completed and at least ten (10) days prior to the EIR certification hearing, a copy of the response to comments made by public agencies on the Draft Program EIR will be provided to the commenting agencies.

2.4 FORMAT OF THE EIR

The Draft EIR is organized into the following sections:

- Section 1.0, *Executive Summary*, provides a brief project description and summary of the environmental impacts and mitigation measures.
- Section 2.0, *Introduction and Purpose*, provides CEQA compliance information.
- Section 3.0, *Project Description*, describes the proposed project in detail indicating project location, background and history, and project characteristics, phasing and objectives, as well as associated discretionary actions required.
- Section 4.0, *Basis of Cumulative Analysis*, describes the approach and methodology for the cumulative analysis.
- Section 5.0, *Environmental Analysis*, contains a detailed environmental analysis of the existing conditions, project impacts (including direct and indirect, short-term and long-term, and cumulative), recommended mitigation measures, and unavoidable adverse impacts.
- Section 6.0, *Other CEQA Considerations*, discusses the long-term affects associated with the proposed project, including the potential growth associated with the proposed action and energy conservation.
- Section 7.0, *Alternatives to the Proposed Project*, describes a reasonable range of alternatives to the project or to the location of the project that could feasibly attain the basic project objectives.
- Section 8.0, *Effects Found Not To Be Significant*, explains potential impacts that have been determined not to be significant.
- Section 9.0, *Organizations and Persons Consulted*, identifies all Federal, State or local agencies, other organizations, and individuals consulted in the preparation of the EIR.
- Section 10.0, *Bibliography*, identifies reference sources for the EIR.

The Appendices Section will contain the technical documentation relevant to the project and Program EIR.

2.5 RESPONSIBLE AND TRUSTEE AGENCIES

Certain projects or actions undertaken by a Lead Agency require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Such other agencies are referred to as Responsible Agencies and Trustee Agencies. Pursuant to Sections 15381 and 15386 of the CEQA Guidelines, Responsible Agencies and Trustee Agencies are respectively defined as follows:

"Responsible Agency" means a public agency that proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project (Section 15381).

"Trustee Agency" means a State agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. Trustee Agencies include (Section 15386):

(a) *The California Department of Fish and Wildlife with regard to the fish and wildlife of the State, to designated rare or endangered native plants, and to game refuges, ecological reserves, and other areas administered by the Department.*

(b) *The State Lands Commission with regard to state-owned "sovereign" lands such as the beds of navigable waters and State school lands.*

(c) *The State Department of Parks and Recreation with regard to units of the State Park System.*

Responsible and Trustee Agencies and other entities that may use this EIR in their decision-making process or for informational purposes include, but may not be limited to, the following:

- California Department of Transportation (Caltrans);
- California Department of Toxic Substances Control;
- California Regional Water Quality Control Board;
- Kern County;
- Kern Council of Governments;
- Kern County Fire Department;
- McFarland Unified School District;
- McFarland Mutual Water Company;
- San Joaquin Valley Air Pollution Control District (SJVAPCD); and
- South San Joaquin Municipal Water District.

2.6 INCORPORATION BY REFERENCE

Pertinent documents relating to this EIR have been cited in accordance with Section 15148 of the CEQA Guidelines, which encourages "incorporation by reference" as a means of reducing redundancy and length of environmental reports. The following documents, which are available for public review at the City of McFarland, Planning Department, located at 401 West Kern Avenue, McFarland, California, are hereby incorporated by reference into this EIR. Information contained within these documents has been utilized for each section of this EIR. A brief synopsis of the scope and content of these documents are provided below.

- *McFarland General Plan (McFarland General Plan), adopted September 12, 1991, as amended periodically since and consolidated in 2011*. The McFarland General Plan is the long-range guide for growth and development within the City. The City of McFarland last comprehensively updated their General Plan in 1991. The comprehensive update included the following elements: Land Use, Circulation, Housing, Noise, Open Space, Conservation and Recreation, Safety and Seismic Safety. The General Plan elements

contain goals, objectives, and policies, which are intended to focus on key development issues. The General Plan is also a tool to help City staff, City Commission, and the City Council make land use and public investment decisions, and provides the framework for the City's Development Code. The Housing Element 2015-2023 was updated in December 2015. The Complete Street 2035 Circulation Element was updated in February 2013 while the Land Use Element was last updated in September 2013. The City has recently updated the Safety Element.

- *McFarland Consolidated 2011 General Plan Program Environmental Impact Report (General Plan EIR), adopted September 12, 1991 and consolidated in 2011*. The General Plan EIR is intended to provide decision-makers and the public with information concerning the environmental effects of implementation of the General Plan. The General Plan EIR reviews existing conditions, analyzes potential environmental impacts, identifies General Plan strategies and actions that serve as mitigation, and identifies additional mitigation measures to reduce potentially significant effects due to implementation of the General Plan. The General Plan EIR determined that implementation of the General Plan would result in various irreversible environmental changes in the area with the most significant effect being the loss of agricultural area as the area is converted to urban uses. Other significant environmental effects include increased usage of groundwater resources, additional air and noise pollution emissions, and increased consumption of natural resources such as electrical energy and petroleum products.

- *McFarland Municipal Code (Municipal Code), codified through Ordinance No. 2013-028, passed March 14, 2013*. The Municipal Code provides regulations for governmental operations, development, infrastructure, public health and safety, and business operations within the City. Title 17, Zoning, of the Municipal Code represents the City's Zoning Ordinance. The Zoning Ordinance is established to serve the public health, safety, comfort, convenience, and general welfare and to provide the economic and social advantages resulting from an orderly planned use of land resources. It is also intended to encourage, guide, and provide a definitive plan for the future growth and development of the City.

- *Kern County General Plan (County General Plan) adopted on June 15, 2004, and last amended on September 22, 2009*. The Kern County General Plan is a policy document, with planned land use maps and related information, designed to give long-range guidance to County officials making decisions affecting the growth and resources of the unincorporated Kern County jurisdiction, excluding the metropolitan Bakersfield planning area. This document helps to ensure that day-to-day decisions conform to the long-range program designed to protect and further the public interest as related to Kern County's growth and development and mitigate environmental impacts. The General Plan also serves as a guide to the private sector of the economy in relating its development initiatives to the public plans objectives, and policies of the County.

- *Kern County Municipal Code (County Municipal Code) codified through Ordinance No. G-8544, passed March 10, 2015*. The Kern County Municipal Code includes provisions for physical development, business licenses and regulations, health and safety, road, parks, recreation areas, and public places. Title 19, the Zoning Ordinance of the Kern County Municipal Code was adopted to promote and protect the public's health, safety, and welfare through the orderly regulation of land uses throughout the unincorporated

area of Kern County. The purposes include to: provide the economic and social advantages resulting from an orderly planned use of land resources; encourage and guide development consistent with the Kern County General Plan; divide Kern County into zoning districts of a number, size and location deemed necessary to carry out the purposes of the county general plan and this title; regulate the size and use of lots, yards and other open spaces; regulate the use, location, height, bulk and size of buildings and structures; regulate the intensity of land use; regulate the density of population in residential areas; establish requirements for off-street parking; regulate signs and billboards; and provide for the enforcement of the regulations of this chapter.

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SECTION 3.0
Project Description

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION AND SETTING

The City of McFarland is located within the Central Valley, approximately 20 miles north of Bakersfield, within the northwestern portion of Kern County; refer to Exhibit 3-1, *Regional Location*. McFarland is approximately 2.6-square miles and is directly bounded by unincorporated areas of the County. The cities of Delano and Wasco are located approximately seven miles to the north and approximately 11 miles to the southwest, respectively. Regional access to the City is provided by State Route 99 (SR-99) with access at Perkins Avenue, Sherwood Avenue, and Elmo Highway. SR-99, which bisects the City, extends almost the entire length of the Central Valley from Interstate 5 (I-5) near Wheeler Ridge at its southern end to SR-36 near Red Bluff at its northern end.

The City's General Plan planning area consists of a total of 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's sphere of influence (SOI); refer to Exhibit 3-2, *McFarland General Plan Planning Area*. The location of the proposed General Plan Amendment (GPA) (herein referred to as the "project") includes the General Plan planning area.

3.2 BACKGROUND

The City of McFarland last comprehensively updated their General Plan in 1991. The comprehensive update included the following elements:

- Land Use
- Circulation
- Housing
- Noise
- Open Space, Conservation and Recreation
- Safety and Seismic Safety

The Circulation and Land Use Elements were both updated in 2013. In December 2015, the City adopted its Housing Element for the 2015-2023 planning period. The City is currently in the process of updating the Safety Element.

Although the update to the 2013 Land Use Element included new land use designations, the General Plan Land Use map was not amended to reflect these new designations. This has resulted in the General Plan Land Use Map being inconsistent with the land use designations identified in the 2013 Land Use Element. The 2013 Circulation Element update identified land use designations for portions of the SOI; however, the General Plan Land Use map was not amended to reflect these designations. Thus, the Land Use and Circulation maps are inconsistent with each other. The General Plan Land Use map does not currently assign land use designations to land within the SOI. The City currently defers to existing Kern County General Plan Land Use designations for this area.

NOT TO SCALE

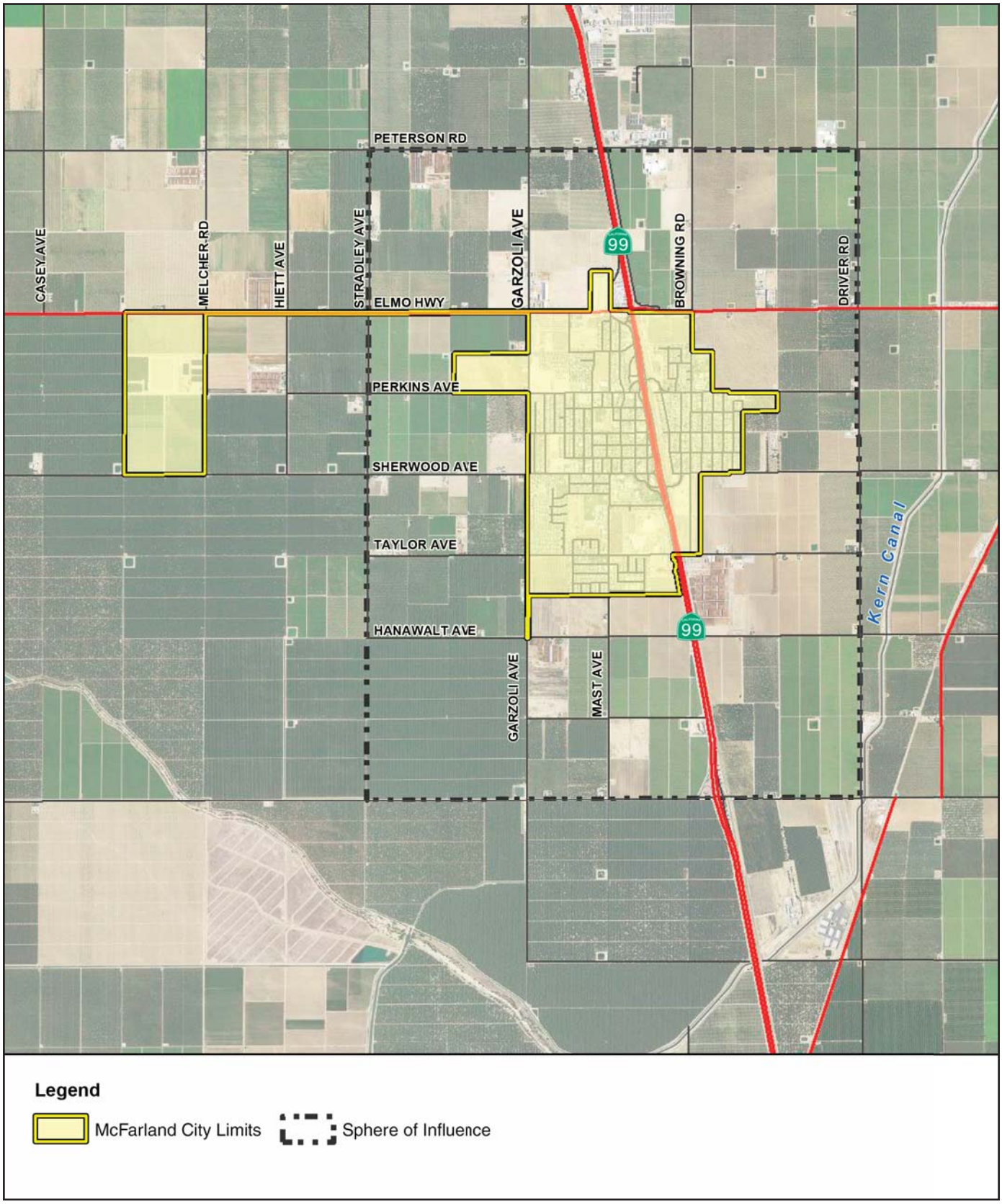
Michael Baker INTERNATIONAL

4/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Regional Location

Exhibit 3-1



Source: County of Kern, NAIP - 2012 ESRI.

NOT TO SCALE

Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

McFarland General Plan Planning Area

Exhibit 3-2

The City of McFarland has experienced sustained residential growth over the last five years; however, there has not been any commercial growth to accommodate this increased population. The development pattern that has occurred over this five year period has not yielded high value development, as can be demonstrated by the circulation system of the newer subdivisions, the reoccurring use of the same house layouts that result in the garage being the predominant architectural feature on new single family dwelling units, and the lack of interior streetscaping. It is the City's desire to amend the General Plan Land Use Element to include policies and objectives that will result in high quality development. Further, the City of McFarland is almost completely built out for commercial and industrial land. Thus, the City is looking to the SOI for potential future annexation of land in order to provide expanded manufacturing and commercial opportunities that will allow the City of McFarland to become a more self-sustaining community.

3.3 PROJECT CHARACTERISTICS

The Land Use Element comprises one of the seven General Plan Elements mandated by the State of California, as expressed in California Government Code Section 65302. A Land Use Element designates the proposed general distribution and general location and extent of uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. It is required to include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the General Plan.

The McFarland 2013 Land Use Element established the following land use designations:

- *Agriculture (A):* The Agriculture land use designation provides areas where the predominant land use is agriculturally oriented and where land uses incompatible with agriculture should be excluded. This land use designation also encourages the preservation of prime farmland and farmland of statewide importance. The land use designation is limited to parcels larger than 10 acres in size and has a maximum dwelling density of 1 dwelling unit per gross 10 acres.

- *Rural Residential (RR):* The Rural Residential land use designation provides for detached single family houses with lots ranging from 20,000 square feet to a maximum of 2.5 acres. This designation should be used on areas where there are permanent edges or where higher densities may conflict with safety objectives. The dwelling density is between 0 to 2 dwelling units per acre.

- *Estate Residential (ER):* The Estate Residential land use designation allows for construction of detached single family single family houses with lots ranging from 12,000 square feet to 20,000 square feet in size. The dwelling density is between 2 to 4 dwelling units per acre.

- *Low Density Residential (LDR):* The Low Density Residential land use designation allows for the construction of detached single family houses with lots ranging from 6,000 to 12,000 square feet. A maximum of 8 dwelling units per acre is allowed. Secondary units are allowed in this land use designation if certain conditions in the Zoning Ordinance are met. The dwelling density is between 5 to 8 dwelling units per acre.

- *Medium Density Residential (MDR):* The Medium Density Residential land use designation allows for duplexes, triplexes, fourplexes, condominiums, townhouses and mobile homes in mobile home parks. Medium Density Residential land use is typically associated with R-2 and R-3 zoning. Areas designated Medium High Density Residential are to be integrated throughout the community adjacent to transportation, community services and commercial developments. To avoid inappropriate concentration of these facilities, such developments shall be limited to 25 contiguous units when integrated into a single family neighborhood and to 50 contiguous units when developed as a freestanding development. The dwelling density is between 8 to 15 dwelling units per acre.

- *High Density Residential (HDR):* The High Density Residential land use designation allows for apartments and those types of dwellings listed under the Medium Density Residential land use designation. High Density Residential land use is typically associated with R-4 zoning and allows for the construction of apartment complexes. It is intended that this category utilize innovative site planning, provide on-site recreation amenities and be located near major community facilities, business centers and streets of at least collector capacity. Such developments shall use high quality architectural design features, intensified landscaping and adequate open space. The dwelling density is between 16 to 24 dwelling units per acre.

- *Professional Office (PO):* The Professional Office land use designation allows for professional, executive and administrative offices. This designation includes the conversion of homes to offices when a logical extension of planned or existing office/ commercial uses.

- *Downtown Business (DB):* The Downtown Business land use designation provides the City with a mixed use activity in the downtown area, including retail, office, public, institutional and special residential uses. It is intended to provide for a wide range of uses and top promote the revitalization of the downtown area.

- *Commercial (C):* The Commercial land use designation provides for clusters of commercial development that include retail opportunities such as convenience stores, grocery stores and other typical retail and service establishments.

- *Service Commercial (SC):* The Service Commercial land use designation provides for commercial areas for non-retail commercial uses that provide services to customers. Such uses may have characteristics that require isolation or separation from residential or other commercial uses. This commercial designation may be applied along arterial streets and highway corridors.

- *Light Industrial (LI):* The Light Industrial land use designation allows for fabricating and assembly, research and development, warehousing, mechanic and body shops and other such uses where all work, materials and equipment is generally conducted indoors. This designation is also intended to allow for business park developments and limited complimentary commercial land uses within light industrial developments.

- *Heavy Industrial (HI):* The Heavy Industrial land use designation allows for a range of activities including manufacturing, wholesale distribution and large storage areas. This

designation is also intended to allow for business park developments and limited complimentary commercial land uses within light industrial developments.

- *Public and Institutional (PI):* The Public and Institutional land use designation indicated areas owned and maintained by public or institutional agencies such as the city, schools, hospitals and special districts. This designation also determines areas of permanent open spaces, parks and/or areas precluded from development.

GENERAL PLAN AMENDMENT

The City proposes a General Plan Amendment (GPA) to amend the Land Use Element to add two new land use designations, establish new policies and objectives associated with the new land use designations and other development within the planning area, and amend the Land Use Map to assign land uses to specific areas within the SOI and change existing land use designations for several properties within the City boundaries, as further described below.

Proposed Land Use Designations

The GPA would amend the Land Use Element to add new mixed-use and highway commercial land use designations:

- *Mixed-Use (MU)*. The Mixed-Use land use designation would allow for the development of a mix of residential, office, and retail uses in appropriate areas. The maximum density would be between 16 to 24 units per acre. Non-residential development would be determined based on lot size and development standards.

- *Highway Commercial (HC)*. The Highway Commercial land use designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants, or other visitor-serving uses. Highway commercial nodes may be located at major intersections of the community.

The introduction of a new land use designation could affect properties citywide.

Proposed Land Use Policies and Objectives

The GPA also involves new and/or modified objectives and policies within the Land Use Element associated with the new mixed-use and highway commercial designations and to address high quality development within the City, as follows:

Policy G1.2: Establish land use policies that encourage a balance of jobs and housing.

Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings.

Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas.

Policy G1.5: Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.

Policy G1.6: Emphasize City gateways that create a distinct and positive impression of the city.

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Policy G3.2: The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue.

Policy G3.3: Annexation projects shall be contiguous to the City and be a logical extension of the City's boundary and public facilities and services. Annexation of non-contiguous areas may be allowed for industrial or commercial uses to support economic development priorities.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Objective G6: Provide and encourage opportunities for Mixed Use and Transit-Oriented Development.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.2: Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.
d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable

uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.

Objective G7: Ensure the quality and character of the City of McFarland by compliance with relevant codes and regulations.

Policy G7.1: Continually review the Municipal Code and determine which sections are outdated to meet current trends, regulations, community visions and revise as necessary.

Policy G7.2: Provide equitable, consistent and effective code enforcement that resolves complains and addresses quality of life issues that come from poorly maintained properties.

Policy G7.3: Provide public education about property maintenance and Municipal Code requirements.

Objective R3: Provide for high quality of subdivision design that promotes pedestrian and bicycle access and recreational opportunities.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Policy C1.1: The following commercial designations shall be used:

a. Professional Office. This designation allows for professional, executive and administrative offices. This designation includes the conversion of homes to offices when a logical extension of planned or existing office/commercial uses. 40% of the lot can be utilized for buildings.

b. Downtown Business. This designation provides the City with a mixed use activity in the downtown area, including retail, office, public, institutional and special residential uses. It is intended to provide a wide range of uses and to promote the revitalization of the downtown area. 60% of the lot can be utilized for buildings.

c. Commercial. This designation provides for clusters of commercial development that include retail opportunities such as convenience stores, grocery stores and other typical retail and service establishments. 60% of the lot can be utilized for buildings.

d. Service Commercial. This designation provides for commercial areas for non-retail commercial uses that provide services to customers. Such uses may have characteristics that require isolation or separation from residential or other commercial uses. This commercial designation may be applied along arterial streets and highway corridors. 75% of the lot can be utilized for buildings.

e. Highway Commercial. This designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants or other visitor-serving uses. Highway Commercial nodes may be located directly adjacent to SR-99 and the Whisler Interchange. 70% of the lot can be utilized for buildings.

Policy C1.15: Discourage the construction of marginal, disjointed strip center commercial development within the City.

Policy C1.16: Provide convenient freeway access for regionally-serving commercial centers to attract a regional customer base.

Policy C1.17: Focus commercial retail centers adjacent to major transportation corridors.

Policy C1.18: Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

Policy L1.1: The following industrial designations shall be used:

a. Light Industrial. This designation allows for fabricating and assembly, research and development, warehousing and other such uses where all work, materials and equipment is generally conducted indoors. 60% of the lot can be utilized for buildings.

b. Heavy Industrial. This designation allows for a range of activities including manufacturing, wholesale distribution and large storage areas. 60% of the lot can be utilized for buildings.

Policy L1.10: All industrial areas adjacent SR-99 shall be designed so that truck bays, trash areas, loading docks and other similar area are screened from view from the highway.

The policies and objectives associated with the new mixed-use land use designation would be applicable to any future mixed-use development that may occur on sites designated Mixed-Use within the planning area. Similarly, the policies and objectives associated with the new Highway Commercial land use designation would be applicable to any future development that may occur on sites designated highway commercial within the planning area.

The new policies and objectives that address high quality development would be applicable to any future development within the planning area.

Sites Proposed for General Plan Land Use Changes

The GPA would change existing General Plan land use designations for several properties located within the City limits; refer to Exhibit 3-3, *Proposed Sites for General Plan Land Use Changes*. For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s). The project would therefore provide consistency between existing development and the General Plan land use designation. For the remaining properties, the proposed land use changes would guide future growth, development, and redevelopment of primarily undeveloped and underutilized parcels within the City in order to better serve and enhance existing and future development anticipated within the planning area.

Proposed General Plan Land Map

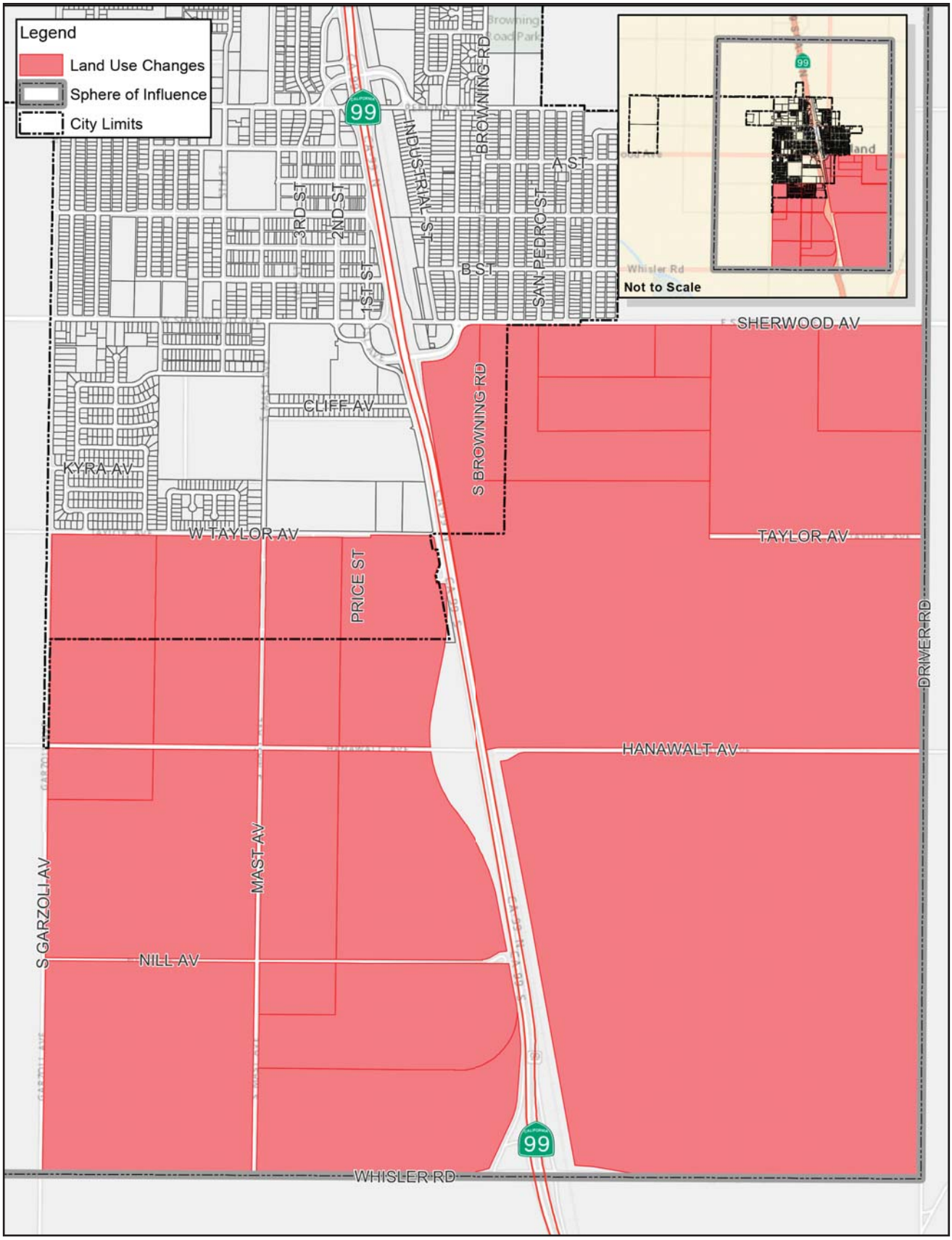
In addition to the proposed land use changes within the City limits, the Land Use Map would be amended in order to assign land use designations to approximately 1,978 acres within the southern portion of the City's SOI, consistent with the Land Use Element. Exhibit 3-4, *Proposed General Plan Land Use*, illustrates the proposed Land Use designations for the parcels within the City limits and SOI.

Table 3-1, *Estimated Development Potential*, summarizes the estimated development potential based upon the land use designations and estimates for the amount of development that could occur within the planning area over the next 25 years (to approximately 2040) if all sites with the opportunity for development are developed to their identified potential. Since the sites are primarily undeveloped and/or underutilized, for purposes of the environmental analysis, the anticipated growth does not take into account any reductions associated with removal of any existing uses that occur within the sites. Thus, the environmental analysis is conservative.

Table 3-1
Estimated Development Potential

Land Use Designations	City			Sphere of Influence			Total		
	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet
Low Density	64.34	394	--	540.34	3,325	--	604.68	3,629	--
Medium Density	0	0	--	67.75	1,221	--	67.75	1,221	--
Professional Office	0	--	0	32.72	--	712,642	32.72	--	712,642
Commercial	14.82	--	161,390	47.28	--	514,879	62.10	--	676,269
Highway Commercial	0	--	0	94.55	--	1,029,650	94.55	--	1,029,650
Mixed-Use	35.36	--	770,141	216.35	--	4,712,103	251.71	--	5,482,244
Light Industrial	35.13	--	612,105	373.25	--	6,503,508	408.38	--	7,115,613
Heavy Industrial	0	--	0	560.41	--	9,764,584	560.41	--	9,764,584
Public and Institutional	37.97	--	0	59.39	--		97.36	--	--
Total	**187.62**	**394**	**1,543,636**	**1,992.04**	**4,456**	**24,237,366**	**2,179.66**	**4,850**	**24,781,002**

Source: City of McFarland.



Source: City of McFarland.

NOT TO SCALE

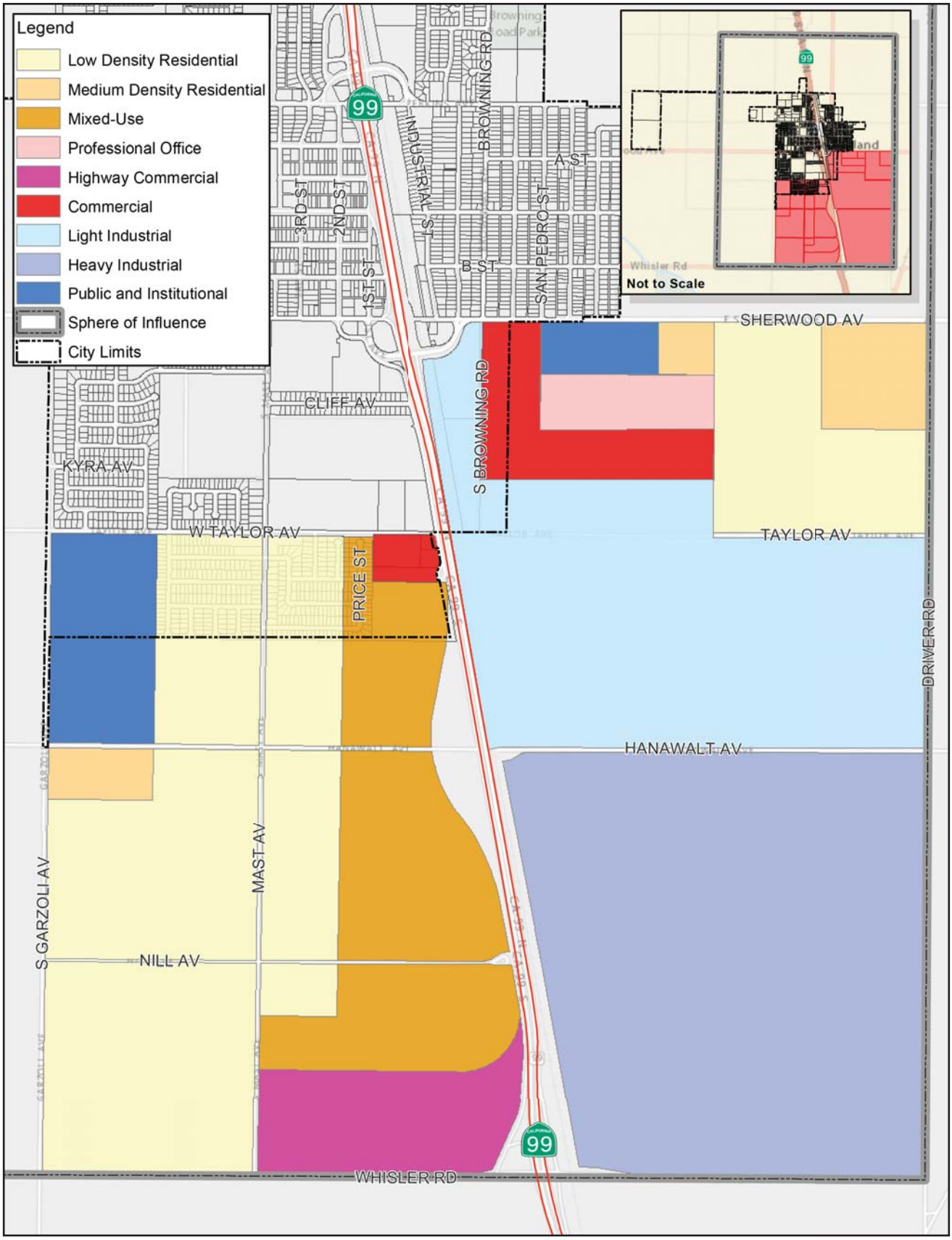
Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Proposed Sites for General Plan Land Use Changes

Exhibit 3-3



Source: City of McFarland.

NOT TO SCALE

Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Proposed General Plan Land Use

Exhibit 3-4

As indicated in Table 3-1, approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage could be accommodated. However, it should be noted that the project does not propose site-specific development on any site within the City or SOI. A SOI describes the City's probable physical boundaries and service area and can therefore be used as a benchmark for the maximum extent of the City's future service area. It defines the primary area within which urban development is to be encouraged. The City's General Plan can address how land in the SOI is planned for and developed in anticipation of future annexation; however, land use jurisdiction over the SOI remains with the County. There are currently no annexation proposals for any land within the SOI. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review.

It is anticipated that future individual development projects within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning considerations, including the LAFCO annexation process. The phasing and exact details of each project would be evaluated on a case-by-case basis. Regarding the potential development, although there is no immediate physical development associated with the project, the analysis in this document would evaluate the potential impacts commensurate with the degree of specificity involved in the General Plan Amendment.

3.4 PROJECT GOALS/OBJECTIVES

The Land Use Element details the City's principles, objectives, and policies in regards to the development and growth of the City. The City has identified the following overarching goals and objectives for the proposed General Plan Amendment:

- Update the Land Use Element, including the establishment of new land use designations that better support and implement the needs of the community.
- Update the Land Use Map to be consistent with the land use designations within the Land Use Element.
- Establish a land use plan and policy framework that will guide future development and redevelopment within undeveloped areas of the City and Sphere of Influence.
- Facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public.
- Provide opportunities for new commercial and industrial development that allow for the City to become a more self-sustaining community.
- Provide employment opportunities within the City that will contribute to an improved jobs/housing balance.
- Promote mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services.
- Provide opportunities for a variety of housing options to serve the needs of the community.

- Provide new goals and policies that promote improved design and development to create economically viable and vibrant environments within the planning area.

3.5 PHASING

Individual development projects would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning considerations, including the LAFCO annexation process. The phasing and exact details of each project would be evaluated by the City on a case-by-case basis. For analysis purposes, a buildout year of 2040 is utilized.

3.6 APPROVALS

Approvals would include, but are not limited to the following:

- Environmental Review
  - Certification recommendation by the Planning Commission
  - Certification by the City Council
  - Additional environmental review for specific development proposals would be evaluated on a case-by-case basis

- General Plan Amendment
  - Amend the Land Use Element
  - Amend the General Plan Land Use Map

SECTION 4.0
Basis of Cumulative Analysis

4.0 BASIS OF CUMULATIVE ANALYSIS

4.1 INTRODUCTION

CEQA Guidelines Section 15355 defines cumulative impacts as "*two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts . . .*" The following elements are necessary in an adequate discussion of cumulative impacts, as noted in CEQA Guidelines Sections 15130[b] through 15130[e].

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other project contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:

(1) Either:

(A) A list of relevant past, present and probable future projects, producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

(2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resources being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

(4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

(5) A specific analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

(c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.

(d) Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impact analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in Section 15152[f], in a certified EIR for that plan.

(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided by Section 15183[j].

4.2 CUMULATIVE ANALYSIS IN THIS EIR

Cumulative impacts may be discussed in terms of the proposed General Plan Amendment (GPA) (proposed project) in combination with impacts anticipated for future development (including approved and planned development within the project area and surrounding affected area), and impacts associated with growth within the region. The geographic area for each impact varies, depending on the nature of the impact, whether it is regional, such as air quality, or local, such as noise.

Quantification can be difficult for cumulative impacts, as it requires speculative estimates of impacts including the following, among others: the geographic diversity of impacts (impacts of future development may affect different areas); variations in time of impacts; and data for buildout projections may change following subsequent approvals. However, every attempt has been made herein to make sound qualitative judgments of the combined effects of, and relationship between, land uses and potential impacts.

This EIR assesses the overall environmental effects of the proposed project at a programmatic-level of detail. This EIR evaluates the overall (cumulative) effects of development in accordance with the proposed GPA land use designations, land use assumptions, and goals and policies. Therefore, the environmental analysis in Section 5.1 through Section 5.15 of this EIR considers project impacts in combination with impacts associated with regional impacts, where applicable, that could be expected in association with other Kern County cities.

Kern Council of Governments (Kern COG) is the responsible agency for developing and adopting regional household, population, and employment growth forecasts for local governments within Kern County. The City of McFarland is a member agency of Kern COG. Therefore, in compliance with CEQA Guidelines Section 15130[1][b], this EIR section describes

the project's environmental effects in combination with the effects of regional buildout, as forecasted in the Kern COG *2014 Regional Transportation Plan/Sustainable Communities Strategy*.

Table 4-1, *Kern COG Growth Forecasts*, outlines Kern COG's adopted household, population, and employment growth forecasts for the region. As shown in Table 4-1, Kern COG forecasts the County's households will increase to approximately 456,100 by 2040, with a resultant population of approximately 1,444,100 persons. Between 2015 and 2040, the County's households and population are forecast to grow approximately 73 percent and 65 percent, respectively. Additionally, Kern COG forecasts the County's employment will increase to approximately 501,700 jobs by 2040, a growth of approximately 48 percent (161,800 jobs) over existing conditions.

Table 4-1
Kern COG Growth Forecasts

Year	Households (Occupied Housing)	Housing (Dwelling Units)	Population (Persons)	Employment (Jobs)
2015 Existing Conditions	263,000[1]	292,7742	874,264[2]	339,900[3]
2040 Kern COG Forecasts[3]	456,100	507,906[4,5]	1,444,100	501,700
2015 – 2040 Change	*193,100+*	*+215,132*	*+569,836*	*+161,800*
2015 – 2040 % Change	*+73%*	*+73%*	*+65%*	*+48%*

Notes:
1. Kern Council of Governments 2015-2050 Growth Forecast Update, Draft August 7, 2015.
2. State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011- 2015*. Sacramento, California, May 2015.
3. Existing employment is based on 2013 information provided by Kern Council of Governments, October 20, 2015.
4. Kern Council of Governments, *2014 Regional Transportation Plan/Sustainable Communities Strategy,* June 19, 2014.
5. Kern COG provides household forecasts, however, no housing forecasts. Therefore, the 2040 housing forecasts were extrapolated, based on 456,100 households (Kern COG) and 10.2 percent vacancy rate (CA Department of Finance).

The growth projections shown in Table 4-1 for the County are inclusive of the following 2040 growth forecasts for the City, (see also Tables 5.2-1, 5.2-2, 5.2-4):

- 3,500 households, or 32.5 percent growth (859 households) over 2015;
- 3,612 dwelling units, or 24 percent growth (696 dwelling units) over 2015;
- 19,300 persons, or 37.5 percent growth (5,263 persons) over 2015; and
- 5,200 jobs, or 46 percent (1,779 jobs) over 2013.

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SECTION 5.0
Environmental Analysis

5.0 ENVIRONMENTAL ANALYSIS

The next subsections of this EIR contain detailed environmental analyses of the existing regulatory and environmental settings, project impacts (including direct and indirect, short-term and long-term, and cumulative), recommended mitigation measures, and significant unavoidable impacts. This EIR analyzes those environmental issue areas as stated in the Notice of Preparation (Appendix A, *Notice of Preparation and Comment Letters*), where potentially significant impacts could occur. Specifically, this EIR examines the following environmental factors:

5.1 Land Use and Planning
5.2 Population, Housing, and Employment
5.3 Aesthetics/Light and Glare
5.4 Transportation and Traffic
5.5 Air Quality
5.6 Greenhouse Gas Emissions
5.7 Noise
5.8 Geology and Soils
5.9 Cultural Resources
5.10 Biological Resources
5.11 Agriculture and Forestry Resources
5.12 Mineral Resources
5.13 Hydrology and Water Quality
5.14 Hazards and Hazardous Materials
5.15 Public Services and Utilities

Each environmental issue is addressed in a separate section of this EIR and is organized into seven subsections, as follows:

- *"Existing Setting"* describes the physical conditions that exist at this time and that may influence or affect the issue under investigation.

- *"Regulatory Setting"* describes the federal, state, regional, or local regulations and plans that are applicable.

- *"Impact Thresholds and Significance Criteria"* provides the thresholds and criteria that are the basis of conclusions of significance. The primary sources used in crafting the thresholds and criteria include: the CEQA Guidelines; local, state, federal, or other standards applicable to an impact category; and officially established significance thresholds. *"... An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting."* (CEQA Guidelines Section 15064[b]). Principally, *"... a substantial, or potentially substantial adverse change in any of the physical conditions within an area affected by the project, including land, air, water, flora, fauna, ambient noise, and objects of historic and aesthetic significance"* constitutes a significant impact (CEQA Guidelines Section 15382).

- *"Impacts and Mitigation Measures"* evaluates the project's environmental impacts in consideration of all phases, including development and operation. This subsection also discusses the potential changes to the existing physical environmental conditions, which may occur if the proposed project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and affect relationship between the proposed project and the potential changes in the environment. All of the potential direct and reasonably foreseeable indirect effects are considered. The exact magnitude, duration, extent, frequency, range, or other parameters are ascertained, to the extent possible, to determine their significance.

- The "Mitigation Measures" lists the proposed Mitigation Measures that would be required of the project to: avoid a significant adverse impact; minimize a significant adverse impact; rectify a significant adverse impact by restoration; reduce or eliminate a significant adverse impact over time by preservation and maintenance operations; or compensate for the impact by replacing or providing substitute resources or environment.

  The "Level of Significance" presents the significance determination. This statement identifies which impacts would remain after the application of mitigation measures and whether the remaining impacts are or are not considered significant. When impacts, despite the inclusion of mitigation measures, cannot be mitigated to a level considered less than significant, they are identified as "significant unavoidable impacts."

- *"Cumulative Impacts"* describes potential environmental changes to the existing physical conditions that may occur as a result of the proposed project combined with all other reasonably foreseeable planned and approved future projects producing related or cumulative impacts, as set forth in Section 4.0. A cumulative impact analysis is provided only for those thresholds that result in a less than significant, potentially significant, or significant unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to be Significant, which result in no project-related impacts.

- *"Significant Unavoidable Impacts"* describes impacts that would be significant and cannot be feasibly mitigated to less than significant, so would therefore be unavoidable. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the project's benefits against its unavoidable environmental impacts in determining whether to approve the project. If the project's benefits are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered "acceptable" (CEQA Guidelines Section 15093[a]).

Section 5.1
Land Use and Planning

5.1 LAND USE AND PLANNING

This section identifies the existing land use conditions, evaluates the project's consistency with relevant planning policies, and recommends mitigation measures that would avoid or lessen the significance of potential impacts. This section also identifies on-site and surrounding land use conditions and relevant land use policies and regulations, as set forth by the City of McFarland. Information in this section is based upon the *McFarland General Plan* (General Plan), and the *McFarland Municipal Code* (Municipal Code).

5.1.1 EXISTING SETTING

PLANNING AREA

The City's General Plan planning area consists of a total of 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's sphere of influence (SOI); refer to Exhibit 3-2, *McFarland General Plan Planning Area*. The location of the proposed General Plan Amendment (GPA) (herein referred to as the "project") includes the General Plan planning area. Incorporated land is land that is within the City limits, and which the City is responsible for controlling the designation and distribution of land uses. Land within the City's SOI is area which the City does not directly have land use control over, but which the City could potentially annex into City limits with approval of the Kern County Local Agency Formation Commission (LAFCO). Although Kern County has jurisdiction over McFarland's SOI, the City can provide comments to Kern County regarding proposed projects within the City's SOI. The SOI area is almost entirely devoted to agricultural uses.

Most of the land within City limits is designated for residential purposes. Commercially designated lands are located within the northern portion of City and adjacent to SR-99 and Perkins Avenue. The downtown commercial area is not distinctly separated from surrounding homes, but is integrated with older residential neighborhoods, forming a residential commercial transition area. Industrial land uses are located east of SR-99 and adjacent to the railroad tracks. These land uses serve as a buffer separating the surrounding residential areas from the highway. Land designated for agricultural use primarily occurs along the furthest extent of the City boundaries, in the eastern and southern portions of the City. Institutional (wastewater treatment plant, sumps, City Hall, and water tanks), open space (parks), school, and church uses are distributed throughout the City. Vacant lands are also distributed throughout the City, with larger areas of vacant land located in the northwestern and southeastern portions of the City.

Approximately 188 acres of land located within the southern portion of the City has been identified for changes to their existing land use designations; refer to Exhibit 3-3. For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s), such as residential or commercial, or are under construction (school and associated ball fields).

GENERAL PLAN LAND USE DESIGNATIONS

The McFarland Land Use Element establishes the following land use designations:

- *Agriculture (A)*: The Agriculture land use designation provides areas where the predominant land use is agriculturally oriented and where land uses incompatible with agriculture should be excluded. This land use designation also encourages the preservation of prime farmland and farmland of statewide importance. The land use designation is limited to parcels larger than 10 acres in size and has a maximum dwelling density of 1 dwelling unit per gross 10 acres.

- *Rural Residential (RR)*: The Rural Residential land use designation provides for detached single family houses with lots ranging from 20,000 square feet to a maximum of 2.5 acres. This designation should be used on areas where there are permanent edges or where higher densities may conflict with safety objectives. The dwelling density is between 0 to 2 dwelling units per acre.

- *Estate Residential (ER)*: The Estate Residential land use designation allows for construction of detached single family single family houses with lots ranging from 12,000 square feet to 20,000 square feet in size. The dwelling density is between 2 to 4 dwelling units per acre.

- *Low Density Residential (LDR)*: The Low Density Residential land use designation allows for the construction of detached single family houses with lots ranging from 6,000 to 12,000 square feet. A maximum of 8 dwelling units per acre is allowed. Secondary units are allowed in this land use designation if certain conditions in the Zoning Ordinance are met. The dwelling density is between 5 to 8 dwelling units per acre.

- *Medium Density Residential (MDR)*: The Medium Density Residential land use designation allows for duplexes, triplexes, fourplexes, condominiums, townhouses and mobile homes in mobile home parks. Medium Density Residential land use is typically associated with R-2 and R-3 zoning. Areas designated Medium High Density Residential are to be integrated throughout the community adjacent to transportation, community services and commercial developments. To avoid inappropriate concentration of these facilities, such developments shall be limited to 25 contiguous units when integrated into a single family neighborhood and to 50 contiguous units when developed as a freestanding development. The dwelling density is between 8 to 15 dwelling units per acre.

- *High Density Residential (HDR)*: The High Density Residential land use designation allows for apartments and those types of dwellings listed under the Medium Density Residential land use designation. High Density Residential land use is typically associated with R-4 zoning and allows for the construction of apartment complexes. It is intended that this category utilize innovative site planning, provide on-site recreation amenities and be located near major community facilities, business centers and streets of at least collector capacity. Such developments shall use high quality architectural design features, intensified landscaping and adequate open space. The dwelling density is between 16 to 24 dwelling units per acre.

- *Professional Office (PO)*: The Professional Office land use designation allows for professional, executive and administrative offices. This designation includes the conversion of homes to offices when a logical extension of planned or existing office/ commercial uses.

- *Downtown Business (DB):* The Downtown Business land use designation provides the City with a mixed use activity in the downtown area, including retail, office, public, institutional and special residential uses. It is intended to provide for a wide range of uses and top promote the revitalization of the downtown area.

- *Commercial (C):* The Commercial land use designation provides for clusters of commercial development that include retail opportunities such as convenience stores, grocery stores and other typical retail and service establishments.

- *Service Commercial (SC):* The Service Commercial land use designation provides for commercial areas for non-retail commercial uses that provide services to customers. Such uses may have characteristics that require isolation or separation from residential or other commercial uses. This commercial designation may be applied along arterial streets and highway corridors.

- *Light Industrial (LI):* The Light Industrial land use designation allows for fabricating and assembly, research and development, warehousing, mechanic and body shops and other such uses where all work, materials and equipment is generally conducted indoors. This designation is also intended to allow for business park developments and limited complimentary commercial land uses within light industrial developments.

- *Heavy Industrial (HI):* The Heavy Industrial land use designation allows for a range of activities including manufacturing, wholesale distribution and large storage areas. This designation is also intended to allow for business park developments and limited complimentary commercial land uses within light industrial developments.

- *Public and Institutional (PI):* The Public and Institutional land use designation indicated areas owned and maintained by public or institutional agencies such as the city, schools, hospitals and special districts. This designation also determines areas of permanent open spaces, parks and/or areas precluded from development.

5.1.2 REGULATORY SETTING

Development in the planning area is subject to the policies, standards and guidelines contained within several relevant planning documents. Relevant planning documents related to land uses for the project are described below.

REGIONAL/MULTI-JURISDICTIONAL PLANS AND POLICIES

2014 Regional Transportation Plan/Sustainable Communities Strategy

Kern Council of Governments (Kern COG) serves as the Metropolitan Planning Organization (MPO), the Regional Transportation Planning Agency, as well as the technical and informational resource and rideshare administrator for Kern County and the 11 incorporated cities within Kern County including Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. As a comprehensive planning agency, Kern COG is responsible for developing, maintaining, and updating a variety of area wide plans for transportation, land use, housing, and air quality. Kern COG also provides information and technical assistance to its member agencies through several local, state, and federal designations.

On July 19, 2014, Kern COG adopted the *2014 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). The RTP/SCS represents the region's mutual vision for its future and was developed using a grassroots, bottom-up approach, garnering input from over 8,000 residents across the Kern COG region.

The intent of the SCS is to achieve the state's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment and improved quality of life for community members in Kern County.

KERN COUNCIL OF GOVERNMENTS 2015-2050 GROWTH FORECAST UPDATE

Kern COG is in the progress of updating the regional growth forecast report, *2015 Growth Forecast Update* (August 7, 2015), which includes four primary socioeconomic measures that directly influence growth, development, resource use, and public finance: number of households, total population, total number of housing units, and employment by major economic sector. These socio-economic estimates and projections are used for federal and state mandated long-range planning efforts such as the RTP/SCS and the *Air Quality Attainment Plan* (AQAP), among others; refer to Section 5.5, *Air Quality*. Additionally, the projections enable the proper planning of infrastructure and facilities to adequately meet the needs of the anticipated growth; refer to Section 5.2, *Population, Housing, and Employment*, and Section 5.15, *Public Services and Utilities*. The growth forecasts provide population, household, and employment data for 2000, 2010, 2015, 2035, and 2050.

San Joaquin Valley Air Pollution Control District Air Quality Management Plan

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is one of 35 air quality management districts in the State that have prepared Air Quality Management Plans (AQMPs) to accomplish a five percent annual reduction in emissions. The SJVAPCD has prepared the *2013 Plan for the Revoked 1-Hour Ozone Standard* (2013 Ozone Plan) to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin (SJVAB) regarding ozone. The SJVAPCD's 2013 Ozone Plan was approved by the District Governing Board on September 19, 2013. The 2013 Ozone Plan modeling confirms that the region will attain the revoked 1-hour ozone standard by 2017.

The SJVAPCD has also prepared the *2012 $PM_{2.5}$ Plan* to establish their strategy for attaining the 2006 $PM_{2.5}$ National Ambien Air Quality Standards (NAAQS) in improving air quality and public health in the SJVAB. The *2012 $PM_{2.5}$ Plan* utilizes a comprehensive strategy that includes strengthening regulations for several SJVAPCD industries, providing incentive programs and outreach efforts to involve the general public, and using technological advancement efforts and policy and legislative efforts to further address reducing emissions of $PM_{2.5}$ and NO_X. The *2012 $PM_{2.5}$ Plan* estimates that SJVAPCD will achieve attainment of the federal $PM_{2.5}$ standard by 2019.

In addition to the 2013 Ozone Plan and the *2012 $PM_{2.5}$ Plan,* the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI provides lead agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality in environmental documents. This document describes the criteria that the SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project

emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The latest GAMAQI was adopted by the SJVAPCD on March 19, 2015.

All of the above-referenced plans include measures (i.e. federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation Control Measures (TCMs) are part of these plans. Refer to Section 5.5, *Air Quality*.

Kern County General Plan Land Use, Open Space, and Conservation Element

The *Kern County General Plan* provides long-range guidance for development within the unincorporated areas of Kern County, excluding the metropolitan Bakersfield planning area. The *Kern County General Plan* ensures day-to-day decisions are in conformance with the long-range program related to Kern County's growth and development. The Land Use, Open Space, and Conservation Element identifies the general distribution and location of land uses within the unincorporated areas and establishes policies that address development of non-jurisdictional lands, physical and environmental constraints, public facilities and services, special treatment areas, and resources, as well as residential, commercial, and industrial uses.

Kern County Local Agency Formation Commission

Kern County Local Agency Formation Commission (LAFCO) reviews and evaluates proposals for formation of special districts, incorporation of cities, consolidation of districts, mergers of districts and cities, certain annexations to cities, and urban growth boundaries and urban service areas.

LOCAL PLANS AND POLICIES

McFarland General Plan Land Use Element

The existing Land Use Element of the General Plan establishes guiding principles, objectives, and policies for the permitted types, intensities, and locations of land uses in the City. Objectives and policies applicable to the project are discussed in Table 5.1-3, *General Plan Consistency Analysis*, below. The existing Land Use Element contains descriptions of agricultural, residential, commercial, industrial, and public and institutional uses. The Element includes a Land Use map that establishes a planned pattern of land use by designating the types of uses and their location in the City.

McFarland Land Use Zoning Ordinance

Zoning is the means by which cities implement their General Plan. The City of McFarland's Land Use Zoning Ordinance translates the long-term goals and policies of the General Plan into the regulations and guidelines used for decision-making on future developments. While the General Plan and zoning designations are consistent, the Land Use Zoning Ordinance identifies specific uses allowed within each zoning district and provides specific development requirements, such as density, setbacks, height, size, and development character and appearance.

The City of McFarland's Land Use Zoning Ordinance is contained in Title 17, Zoning, of the *McFarland Municipal Code* (Municipal Code), and establishes zoning districts to achieve

compatibility of uses within each district. Each district distinguishes between land uses and structures, intensity of uses and open spaces.

5.1.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Physically divide an established community; refer to Section 8.0, *Effects Found Not To Be Significant*.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; refer to Impact Statements LU-1, LU-2, and LU-3.
- Conflict with any applicable habitat conservation plan or natural community conservation plan; refer to Section 8.0, *Effects Found Not To Be Significant*.

For the purposes of this impact analysis, a significant impact would occur if project implementation would result in inconsistencies or conflicts with the adopted goals and policies (i.e., strategies) of the City of McFarland General Plan, and applicable rules and regulations of the City Zoning Ordinance, and/or Kern COG goals/policies. Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact”. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a “significant unavoidable impact”.

5.1.4 IMPACTS AND MITIGATION MEASURES

KERN COUNCIL OF GOVERNMENTS

LU-1 THE PROPOSED PROJECT WOULD NOT CONFLICT WITH KERN COG’S 2014 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY.

Impact Analysis: The 2014 RTP/SCS establishes regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation system in Kern County and reduce greenhouse gas (GHG) emissions. The project proposes new land use designations and new objectives and policies that reflect and respond to the overarching goals and policies of the RTP/SCS. The proposed project’s consistency to relevant transportation planning policies contained within the RTP/SCS are assessed in Table 5.1-1, *2014 RTP/SCS Consistency Analysis*. As indicated in Table 5.1-1, the project would support and further implementation of the 2014 RTP/SCS policies.

Table 5.1-1
2014 RTP/SCS Consistency Analysis

Policy	Project Consistency
Land Use Element	
Policy 28: Encourage land use planning by Kern COG local government member agencies that recognizes Kern's large area, dispersed centers and unique geographic features of the region.	**Consistent.** The project would provide two new land use designations: Mixed-Use and Highway Commercial. The Mixed-Use land use designation would allow the development of a mix of residential, office and retail uses in appropriate areas. The Highway Commercial land use designation would provide for localized concentrations of uses catering to the traveling public. These new land use designations would provide for increased development opportunities and densities and intensities within a mixed-use transit-oriented environment. The project also proposes designating land within the City's SOI in anticipation of future annexation that would expand manufacturing and commercial opportunities allowing the City to become a more self-sustaining community.
Policy 29.3: Encourage the expansion of transportation choices and transit usage by providing housing choices that include more compact and mixed land uses within walking distance to transit priority place types and centers.	**Consistent.** The project would create a Mixed-Use land use designation that would allow for the development of a mix of residential, office, and retail uses in appropriate areas. The Mixed-Use land use designation would allow for development of residential uses at a higher density, providing additional housing options within the area and locating housing in proximity to commercial and employment uses. The mix of uses would encourage walking and use of local transit options. Objectives and policies would encourage integrated development that incorporates a mix of uses in mixed use or transit-oriented development areas (Policy G6.1) and workplace development in close proximity to residences in mixed use transit-oriented development areas (Policy G6.2).
Policy 29.6: Promote more compact and mixed-use centers along transit corridors, where appropriate, to support more intense transit options such as Bus Rapid Transit, light rail and active transportation as areas become revitalized.	**Consistent.** Refer to response to Policy 29.3. The project proposes designating land within the City and SOI as Mixed-Use, which would allow for a mix of uses in proximity to existing transit and help support increased transit opportunities and increased development occurs within the area.
Policy 29.7: Land uses should be mixed both horizontally and vertically where appropriate. Vertical mixed use, with ground-floor retail in developed areas and activity centers as identified through local land use plans, can increase the vitality of the street and provide people with the choice of walking to desired services. More important for Bakersfield, mixing uses horizontally can prevent desolate, single-use areas and encourage increased pedestrian activity; scale of use and distance between uses are important to successful horizontal mixed-use development.	**Consistent.** Refer to response to Policies 28, 29.3, and 29.6. Proposed Policy G6.6 would encourage amending the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Table 5.1-1 [continued]
2014 RTP/SCS Consistency Analysis

Policy	Project Consistency
Policy 29.9: Encourage cities and the county to provide land use intensities where appropriate at levels that will promote use of transit and support pedestrian and bicycle activity. A general threshold for transit-supportive residential uses is 10 to 15 units per acre within ½ mile of a high-frequency transit stop (15 min. headways or less). This density can be lower, however, if the urban environment supports easy pedestrian/bike access to transit. Nonresidential uses with a floor area ratio (FAR) of 0.5 provide a baseline that can support viable transit ridership levels. Local land use plans should provide flexibility to maximize the intensity of development in transit priority place types to be more responsive to changing market conditions.	**Consistent.** Refer to response to Policy 29.3. The project would provide for a new Mixed-Use land use designation, allowing for residential development between 16 to 24 units per acre in proximity to retail and employment uses. Non-residential development would be determined based on lot size and development standards. The development of mixed-uses would provide the needed support for increased transit within the area.
Policy 29.12: New residential developments should include streets that provide connectivity. Cul-de-sacs and walls around communities are especially challenging for providing effective pedestrian and bike access to public transit.	**Consistent.** The project proposes new objectives and policies to provide for high quality subdivision design that promotes pedestrian and bicycle access (Objective R3) and encourages new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas, and neighborhood amenities (Policy R3.6). In addition, the project proposes policies to discourage physical barriers between and within neighborhood and neighborhood centers (Policy R3.7) Human-scale design of neighborhoods, blocks and buildings are encouraged (Policy G1.3) along with active and inviting pedestrian-friendly street environments (Policy G1.4).
Policy 29.14: Buildings should be human scaled, with a positive relationship to the street (e.g. entries and windows facing onto public streets, and appropriate articulation and signage).	**Consistent.** Refer to response to Policy 29.12. In addition, the project proposes enhanced design of mixed uses or transit-oriented uses that encourage pedestrian activity, create lively streetscapes, interesting urban spaces, and attractive landscaping and integrate with surrounding uses to become a part of the neighborhood (Policy G6.4).
Policy 29.15: The impact of parking on the public realm should be minimized by siting parking lots behind buildings or screening elements (walls or landscaping). Buildings should be close to the road so parking can be located on the side or in the rear.	**Consistent.** Refer to response to Policy 29.14.
Source: Kern Council of Governments, *2014 Regional Transportation Plan/Sustainable Communities Strategy,* June 2014.	

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.

Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings.

Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas.

Policy G1.5: Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Objective G6: Provide and encourage opportunities for Mixed Use and Transit-Oriented Development.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.2: Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.
d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R.3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Policy C1.17: Focus commercial retail centers adjacent to major transportation corridors.

Policy C1.18: Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

CITY OF MCFARLAND GENERAL PLAN

LU-2 THE PROPOSED PROJECT COULD RESULT IN POTENTIAL INCONSISTENCY IMPACTS WITH THE MCFARLAND GENERAL PLAN.

Impact Analysis: The project proposes to amend the General plan Land Use Element to create two new land use designations: Mixed-Use (MU) and Highway Commercial (HC).

- *Mixed-Use (MU)*. The Mixed-Use land use designation would allow for the development of a mix of residential, office, and retail uses in appropriate areas. The maximum density would be between 16 to 24 units per acre. Non-residential development would be determined based on lot size and development standards.

- *Highway Commercial (HC)*. The Highway Commercial land use designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants, or other visitor-serving uses. Highway commercial nodes may be located at major intersections of the community.

The GPA also proposes to change existing General Plan land use designations for several properties located within the City limits; refer to Exhibit 3-3. For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s). The project would therefore provide consistency between existing development and the General Plan land use designation. For the remaining properties, the proposed land use changes would guide future growth, development, and redevelopment of primarily undeveloped and underutilized parcels within the City in order to better serve and enhance existing and future development anticipated within the planning area.

In addition to the proposed land use changes within the City limits, the Land Use Map would be amended in order to assign land use designations to approximately 1,978 acres within the southern portion of the City's SOI, consistent with the Land Use Element. Exhibit 3-4, illustrates the proposed Land Use designations for the parcels within the City limits and SOI.

Table 5.1-2, *Estimated Development Potential*, summarizes the estimated development potential based upon the land use designations and estimates for the amount of development that could occur within the planning area over the next 25 years (to approximately 2040) if all sites with the opportunity for development are developed to their identified potential. Since the sites are primarily undeveloped and/or underutilized, for purposes of the environmental analysis, the anticipated growth does not take into account any reductions associated with removal of any existing uses that occur within the sites.

Table 5.1-2
Estimated Development Potential

Land Use Designations	City			Sphere of Influence			Total		
	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet
Low Density	64.34	394	--	540.34	3,325	--	604.68	3,629	--
Medium Density	0	0	--	67.75	1,221	--	67.75	1,221	--
Professional Office	0	--	0	32.72	--	712,642	32.72	--	712,642
Commercial	14.82	--	161,390	47.28	--	514,879	62.10	--	676,269
Highway Commercial	0	--	0	94.55	--	1,029,650	94.55	--	1,029,650
Mixed-Use	35.36	--	770,141	216.35	--	4,712,103	251.71	--	5,482,244
Light Industrial	35.13	--	612,105	373.25	--	6,503,508	408.38	--	7,115,613
Heavy Industrial	0	--	0	560.41	--	9,764,584	560.41	--	9,764,584
Public and Institutional	37.97	--	0	59.39	--		97.36	--	--
Total	**187.62**	**394**	**1,543,636**	**1,992.04**	**4,456**	**24,237,366**	**2,179.66**	**4,850**	**24,781,002**

Source: City of McFarland.

As indicated in Table 5.1-2, approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage could be accommodated. However, it should be noted that the project does not propose site-specific development on any site within the City or SOI. A SOI describes the City's probable physical boundaries and service area and can therefore be used as a benchmark for the maximum extent of the City's future service area. It defines the primary area within which urban development is to be encouraged. The City's General Plan can address how land in the SOI is planned for and developed in anticipation of future annexation; however, land use jurisdiction over the SOI remains with the County. There are currently no annexation proposals for any land within the SOI. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review.

Future individual development projects within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning considerations, including the LAFCO annexation process. The phasing and exact details of each project would be evaluated on a case-by-case basis. The General Plan Land Use Element includes objectives and policies to guide future growth and development within the

City, including future annexation considerations. Table 5.1-3, *General Plan Consistency Analysis*, analyzes the project's consistency with current General Plan objectives and policies.

Table 5.1-3
General Plan Consistency Analysis

Goal/Objective/Policy	Project Consistency
Land Use Element	
Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.	**Consistent.** The project proposes to amend the Land Use Element to create two new land use designations: Mixed-Use (MU) and Highway Commercial (HC). These new land uses will further the City's objective to provide a well-balanced mix of uses. The MU designation would allow for the placement of residential uses in proximity to retail and employment uses. The HC land use will take advantage of the City's location to SR-99 and provide expanded manufacturing and commercial opportunities that will allow the City of McFarland to become a more self-sustaining community.
Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.	**Consistent.** The project would amend the Land Use Element to create two new land use designations and change existing land use designations for several properties within the City limits. Upon approval, future development would be required to be consistent with the land use density and intensity standards specific to the site, as depicted on the General Plan Land Use map.
Objective G2: Minimize conflicts between land uses.	**Consistent.** For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s). The project would therefore provide consistency between existing development and the General Plan land use designation. For the remaining properties, the proposed land use changes would guide future growth, development, and redevelopment of primarily undeveloped and underutilized parcels within the City in order to better serve and enhance existing and future development anticipated within the planning area and ensure land use conflicts are minimized. In addition, compliance with the new and modified land use objectives and policies would further minimize potential conflicts.
Objective G3: Discourage leapfrog and sprawl development.	**Consistent.** The City of McFarland is almost completely built out for commercial and industrial land. Thus, the City is looking to the SOI for potential future annexation of land in order to provide expanded manufacturing and commercial opportunities that will allow the City of McFarland to become a more self-sustaining community. The portion of the SOI that is proposed for land use designations is adjacent to the City's southern boundary and is anticipated to provide the greatest opportunity for new development due to its location and proximity to existing land uses.
Objective R1: Provide adequate land in a range of residential densities to accommodate the housing needs of all income groups both residing and expected to reside in McFarland, while ensuring a high quality of residential development.	**Consistent.** The project proposes to amend the Land Use Element to create a new MU land use designation. The MU land use designation would allow for residential densities between 16 to 24 units per acre, which would provide greater housing options to serve existing and future residents. New objectives and policies are also proposed to ensure that new residential development within the City would be of high quality design that promotes pedestrian and bicycle access and recreational opportunities.

Table 5.1-3 [continued]
General Plan Consistency Analysis

Goal/Objective/Policy	Project Consistency
Objective R4: Encourage a mixture of densities.	**Consistent.** The project proposes to amend the Land Use Element to create a new MU land use designation. The MU land use designation would allow for residential densities between 16 to 24 units per acre in proximity to retail and employment uses. Thus, the new MU land use designation would further encourage a mixture of densities within the City.
Objective C1: Ensure the provision of adequate commercial shopping opportunities and office to meet anticipated needs.	**Consistent.** The proposed GPA would designate areas within the City and SOI for office and commercial uses to support existing development within the area and serve new growth anticipated to occur over the next several years.
Policy C1.2: Larger commercial land uses should be separated from residential land uses due to traffic needs, and other potential land use conflicts.	**Consistent.** The project proposes to designate lands within the southeastern portion of the City and within the portion of the SOI east of SR-99 as primarily commercial, light industrial, and heavy industrial. Heavy industrial uses would be separated from residential areas by less intense industrial and commercial uses, providing a transition between these uses. Proposed objectives and policies would further reduce potential land use conflicts by ensuring the protection and enhancement of quality of life in the City's neighborhoods and ensuring compliance with development standards.
Objective L1: Promote industrial sites which are functional, have adequate public services, and have access to major streets and railroads.	**Consistent.** The GPA would designate land east of SR-99 for industrial uses. Proposed objectives and policies would promote convenient access to these areas and ensure that adequate services are available to serve the future development within these areas.
Circulation Element	
Policy 1-8: New development shall be required to mitigate traffic impacts associated with the project on State Route 99, Arterial Streets, Collector Streets, and local streets including traffic control devices, and bridges over State Route 99 and interchanges.	**Consistent.** The project does not propose site-specific development. Future development projects would be reviewed on a project-by-project basis to ensure development is consistent with the General Plan and that potential environmental impacts associated with any proposed development are mitigated to the extent feasible.
Housing Element	
Policy 2.1: Provide high quality housing for current and future residents with a diverse range of income levels.	**Consistent.** The introduction of a MU land use designation would allow for the development of additional housing options within the City, further contributing to the provision of housing for existing and future residents with a diverse range of income levels. New objective and policies would also provide for the development of high quality housing and neighborhoods that promote pedestrian connectivity.
Policy 2.11: Encourage the production of housing that meets the needs of all economic segments, including low, moderate, and above moderate income households, to achieve a balanced community.	**Consistent.** Refer to response to Policy 2.1.
Policy 6.1: Facilitate the development of mixed-use projects in appropriate commercial areas, including stand-alone residential developments (horizontal mixed-use) and housing above ground floor commercial uses (vertical mixed-use).	**Consistent.** The proposed GPA would introduce a MU land use designation that would allow for the development of residential, office and retail uses in a mixed-use environment in proximity to amenities.

Table 5.1-3 [continued]
General Plan Consistency Analysis

Goal/Objective/Policy	Project Consistency
Policy 6.2: Implement smart growth principles through design guidelines and encourage quality infill projects.	**Consistent.** The proposed GPA includes several objectives and policies to enhance future development within the City, including the provision of more walkable, pedestrian-friendly neighborhoods with connections to retail and employment uses, as well as recreation opportunities. Transit-oriented development would be encouraged, providing support for increased transit opportunities within the area.
Noise Element	
Policy 2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the design of projects to reduce noise to the following levels: a. For noise attributable to sources which are preempted from local control, such as traffic on public roadways and railroad operations, noise levels should be reduced to 60 dB Ldn or less in outdoor activity areas and 45 dB Ldn or less within interior living spaces. Where it is not possible to reduce exterior noise attributable to these sources to 60 dB Ldn or less using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB Ldn will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 dB Ldn with the windows and doors closed. It should be noted that in instances where windows and doors must remain closed in order to maintain the required acoustical isolation, air conditioning or mechanical ventilation will be required. b. For noise due to sources which are not preempted from local control, such as local industries or other stationary noise sources, noise levels should be reduced to 60 dB Ldn or less in outdoor activity areas, 45 dB Ldn or less within interior living spaces and the performance standards contained within Figure No. N-I.	**Inconsistent.** The proposed land use map considers the compatibility of land uses, such as placing heavy industrial land uses away from residential uses and providing a transition between noise-producing roadways and noise-sensitive uses. As indicated in Section 5.7, *Noise*, future development along several roadways within the project area could experience excessive noise levels. Future development would be required to be designed in compliance with the Uniform Building Code (UBC) and an Acoustical Noise Analysis prepared to ensure the City's noise level standards are met at all residential, commercial, mixed-use, industrial, and public and institutional uses. However, impacts would still occur at existing residences and feasible mitigation is not available at these locations. Further, mitigation measures would be limited to roadways within the project site. Thus, despite the implementation of Mitigation Measure NOI-4, mobile source noise impacts related to roadway (traffic) noise would remain significant and unavoidable.
Policy 3: New development of industrial, commercial or other noise-generating land uses will not be permitted if resulting noise levels will exceed 60 dB Ldn in areas containing residential or other noise-sensitive land uses. Additionally, the development of new noise generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table IV in areas containing residential or other noise-sensitive land uses.	**Consistent.** Future development of non-residential uses (e.g., office, industrial, commercial, and public and institutional) that could generate noise in areas containing noise-sensitive land uses (e.g., residential dwellings, schools, hospitals, parks, and hotels) could cause noise levels to exceed acceptable limits. However, future development would be required to adhere to the McFarland General Plan Policies 2 and 3, which prohibits residential, industrial, commercial or noise-generating land uses to be permitted if future noise levels exceed 60 dB in noise-impacted areas or in areas containing residential or other noise-sensitive land uses. Stationary noise impacts as a result of potential new development consistent with the proposed General Plan Amendment are anticipated to result in less than significant impacts.

Table 5.1-3 [continued]
General Plan Consistency Analysis

Goal/Objective/Policy	Project Consistency
Open Space, Conservation and Recreation Element	
Policy 1-b: Reserve adequate sites in neighborhoods and unincorporated areas for future schools, parks, and other public facilities.	**Consistent.** The proposed GPA would not change any land currently designated for public and institutional uses to other land uses. Approximately 97 acres of land would be designated as public and institutional uses, including for a school site and associated ball fields currently under construction.
Source: City of McFarland, *McFarland Consolidated 2011 General Plan,* September 12, 1991; City of McFarland, *McFarland Land Use Element,* September 2013; RM Associate, *Complete Street 2035 Circulation Element,* February 12, 2013; City of McFarland, *Housing Element 2015-2023*, *1991 Noise Element, A Part of the McFarland Consolidated 2011 General Plan,* September 12, 1991.	

As demonstrated in Table 5.1-3, the proposed project would be consistent with relevant General Plan objectives and policies, resulting in a less than significant impact with the exception of the Noise Element Policy 2. Mitigation has been recommended requiring subsequent noise studies for future development along Hanawalt Avenue and Mast Avenue in areas that would experience noise levels exceeding 60 decibels of Day-Night Average Level (dB L_{dn}). Subsequent noise studies are required to demonstrate that noise levels have been properly accounted for and attenuated in accordance with established City standards; refer to Mitigation Measure NOI-4. The analysis would verify that future residences are adequately shielded and/or located at an adequate distance from mobile noise sources. However, impacts would still occur at existing residences and feasible mitigation is not available at these locations. Thus, the project would result in a significant and unavoidable impact regarding inconsistency with Noise Element Policy 2.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified beyond those identified throughout Section 5.0 in the topic-specific analysis sections.

Project Mitigation Measures: Refer to Mitigation Measure NOI-4. No additional feasible mitigation measures are available.

Level of Significance: Significant and Unavoidable Impact.

CITY OF MCFARLAND ZONING ORDINANCE

LU-3 THE PROPOSED PROJECT COULD RESULT IN POTENTIAL INCONSISTENCY IMPACTS WITH THE MCFARLAND ZONING ORDINANCE.

Impact Analysis: Due to the comprehensive nature of land use issues, the General Plan Land Use Element may not be able to address issues in the same level of detail as other local physical planning documents, plans, and ordinances. The proposed MU and HC land use designations described in the Land Use Element indicate general categories of allowed uses and development intensities within each land use category. The zoning ordinance is an implementation tool for the General Plan and establishes more specific regulations and policies influencing development.

The City of McFarland continues to ensure that its legislative enactments, including zoning, are consistent with the General Plan. Each of McFarland's General Plan land use categories corresponds to one or more zoning districts. The GPA proposes Policy G6.6 to ensure the zoning ordinance is revised to conform to the General Plan text and map. More specifically, Policy G6.6 calls for amending the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards. Following approval of the proposed GPA, the City's zoning ordinance will be amended to ensure the zoning districts implement the designations identified within the General Plan and to ensure consistency with the policies described in the Land Use Element. Impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Objective G7: Ensure the quality and character of the City of McFarland by compliance with relevant codes and regulations.

Policy G7.1: Continually review the Municipal Code and determine which sections are outdated to meet current trends, regulations, community visions and revise as necessary.

Policy G7.2: Provide equitable, consistent and effective code enforcement that resolves complains and addresses quality of life issues that come from poorly maintained properties.

Policy G7.3: Provide public education about property maintenance and Municipal Code requirements.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.1.5 CUMULATIVE IMPACTS

LU-4 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED GENERAL PLAN AMENDMENT AND CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE LAND USE IMPACTS.

Impact Analysis: The proposed GPA would introduce two new land use designations, establish land use designations within the City's SOI, and modify some land use designations for existing properties within the City. The project does not involve-site specific development. Further, there are currently no annexation proposals for any land within the SOI. Any future

annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review.

Cumulative projects would be evaluated on a project-by-project basis, as they are implemented within the City of McFarland and other cities/communities. Each cumulative project would undergo a similar plan review process, to determine potential land use planning policy and regulation conflicts. Each cumulative project would be analyzed independently and within the context of their respective land use and regulatory settings. As part of their review process, each project would be required to demonstrate compliance with the provisions of the applicable land use designation(s) and zoning district(s). It is assumed that cumulative development would progress in accordance with the general plan and municipal code of the respective jurisdictions. Each cumulative project would be analyzed to ensure that the goals, objectives, and policies of the respective general plans, and regulations and guidelines of the respective municipal codes are consistently upheld. Therefore, the combined cumulative land use/planning impacts associated with the project's incremental effects and those of the cumulative projects would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified beyond those identified throughout Section 5.0 in the topic-specific analysis sections.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

5.1.6 SIGNIFICANT UNAVOIDABLE IMPACTS

The project would result in a significant and unavoidable impact regarding inconsistency with Noise Element Policy 2. All other land use impacts associated with implementation of the proposed GPA would be less than significant with compliance with the General Plan policies and objectives.

If the City of McFarland approves the proposed GPA, the City shall be required to cite their findings in accordance with CEQA Guidelines Section 15091 and prepare a Statement of Overriding Considerations in accordance with CEQA Guidelines Section 15093.

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Section 5.2
Population, Housing, and Employment

5.2 POPULATION, HOUSING, AND EMPLOYMENT

This section identifies the City of McFarland's existing population, housing, and employment statistics and provides an analysis of potential impacts that may result from project implementation for forecast conditions. More specifically, the impact analysis evaluates how project implementation, which assumes a horizon year of 2040, would induce population, housing, or employment growth in the City, either directly or indirectly. The following analyses are based primarily on data obtained from the U.S. Census 2000 and 2010, California Department of Finance, and Kern Council of Governments (Kern COG) *2014 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS).

5.2.1 EXISTING SETTING

POPULATION

Kern County

Kern County's (County) population totaled 661,645 persons in 2000 and 839,631 persons in 2010, representing a growth rate of approximately 27 percent for this time period; refer to Table 5.2-1, *Population Estimates and Projections*. As of January 2015, the County's population was an estimated 874,264 persons. According to Kern COG, with a forecast population of approximately 1,444,100 persons by 2040, the County's population is projected to grow approximately 65 percent between 2015 and 2040.

Table 5.2-1
Population Estimates and Projections

Year	Kern County (Persons)	City of McFarland (Persons)
2000 Census[1]	661,645	9,618
2010 Census[2]	839,631	12,707
2000 - 2010 Change	*+177,986*	*+3,089*
2000 - 2010 % Change	*+27%*	*+32%*
2015 Existing Conditions[3]	874,264	14,037
2010 – 2015 Change	*+34,633*	*+1,330*
2010 – 2015 % Change	*+4%*	*+10%*
Kern COG Forecasts 2040[4]	1,444,100	19,300
2015 – 2040 Change	*+569,836*	*+5,263*
2015 – 2040 % Change	*+65%*	*+37%*

1. U.S. Census Bureau, Census 2000.
2. U.S. Census Bureau, Census 2010.
3. State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011- 2015. Sacramento, California, May 2015.
4. Kern Council of Governments, 2014 Regional Transportation Plan/Sustainable Communities Strategy, June 19, 2014.

City of McFarland

As indicated in Table 5.2-1, the City's population was an estimated 9,618 persons in 2000 and 12,707 persons in 2010, representing a population growth rate of approximately 32 percent between 2000 and 2010. The City's 2015 population is approximately 14,037 persons. Kern COG forecasts the City's population would increase to approximately 19,300 persons by 2040, or approximately 37 percent between 2015 and 2040. Comparatively, the City is forecast to grow at a much lower rate than the County, which is forecast to grow by approximately 65 percent. By 2040, the City would constitute approximately 1.3 percent of the County's total population.

HOUSING

Kern County

The County's housing data is presented in Table 5.2-2, *Housing Inventory Estimates and Projections*. The County's housing inventory was an estimated 231,564 dwelling units (du) in 2000 and 284,367 dwelling units in 2010, representing an increase of approximately 23 percent between 2000 and 2010. The County's 2015 housing inventory totaled 292,774 dwelling units, with a 10.2 percent vacancy rate and an average of 3.20 persons per household. The County's housing inventory is forecast to total approximately 507,906dwelling units by 2040, representing an increase of approximately 73 percent between 2015 and 2040; refer to Table 5.2-2.

Table 5.2-2
Housing Inventory Estimates and Projections

Year/Description	Kern County	City of McFarland
2000 Census DU[1, 2]	231,564	2,031
2010 Census DU[3]	284,367	2,683
2000 - 2010 Change	*+52,803*	*+652*
2000 - 2010 % Change	*+23%*	*+32%*
2015 Existing Conditions DU[5]	292,774	2,916
2010 - 2015 *Change*	*+8,407*	*+233*
2010 - 2015 % Change	*+3%*	*+9%*
2015 Vacancy Rate[4]	10.2%	3.1%
2015 Persons per Household[4]	3.20	4.48
2040 Kern COG Forecasts DU[5, 6]	507,906	3,612
2015 – 2040 Change	*+215,132*	*+696*
2015 – 2040 % Change	*+73%*	*+24%*

Notes:
1. DU = Dwelling units.
2. U.S. Census Bureau, *Census 2000*.
3. U.S. Census Bureau, *Census 2010*.
4. State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011- 2015. Sacramento, California, May 2015.
5. Kern Council of Governments, *2014 Regional Transportation Plan/Sustainable Communities Strategy,* June 19, 2014.
6. Kern COG provides household forecasts, however, no housing forecasts. Therefore, the 2040 housing forecasts were extrapolated, based on the following: for the County, 456,100 households (Kern COG) and 10.2 percent vacancy rate (CA Department of Finance); and for the City, 3,500 households (Kern COG) and 3.1 percent vacancy rate (CA Department of Finance).

City of McFarland

The City's 2010 housing inventory was an estimated 2,683 dwelling units, representing an increase of approximately 32 percent over the 2000 inventory of 2,031 dwelling units; refer to Table 5.2-2. Comparatively, the City's housing growth rate between 2000 and 2010 was greater than the County's growth rate for the same period (23 percent).

Vacancy rates are a measure of the general availability of housing. They also indicate how well the types of available units meet the housing market demand. A low vacancy rate suggests that households may have difficulty finding housing within their price range, whereas a high vacancy rate indicates that either the units available are not suited to the population's needs or there is an oversupply of housing units. The availability of vacant housing units provides households with choices of type and price to accommodate their specific needs. Low vacancy rates can result in higher prices, limited choices, and settling with inadequate housing. It may also contribute to overcrowding. A vacancy rate between 4.0 and 6.0 is considered "healthy." As indicated in Table 5.2-2, the City's 2015 vacancy rate was 3.0 percent. Comparatively, the City's vacancy rate was significantly less than the County's overall vacancy rate of 10.0 percent.

Kern COG forecasts the City's households would total 3,500 by 2040. Assuming a 3.0 percent vacancy rate, the City's housing inventory is forecast to total approximately 3,612 dwelling units by 2040, representing an increase of approximately 24 percent between 2015 and 2040; refer to Table 5.2-2.

EMPLOYMENT

Kern County

The County's 2000 civilian labor force was an estimated 264,158 persons, of which approximately 12 percent were unemployed; refer to Table 5.2-3*, Labor Force and Employment Estimates*. In 2010, the County's civilian labor force was an estimated 351,110 persons. Between 2000 and 2010, the County's unemployment rate decreased slightly to approximately 11 percent. According to the U.S. Census 2010, approximately 26 percent of the County's labor force was employed in management, business, science, and arts occupations, and approximately 23 percent was employed in sales and office occupations. The largest industry sector in the County was educational services and health care and social services. The County's existing labor force (as of July 2015) is an estimated 398,600 persons, with an unemployment rate of approximately 10 percent.

Table 5.2-4*, Job Data*, presents the County's existing employment and forecast employment projections. As indicated in Table 5.2-4*,* the County's job market is projected to increase from 339,900 jobs in 2013 to 501,700 jobs in 2040. Thus, Kern COG forecasts the County's labor market would grow approximately 48 percent (161,800 jobs) between 2013 and 2040.

Table 5.2-3
Labor Force and Employment Estimates

Year	Kern County			City of McFarland		
	Labor Force	Un-employed Number	Un-employed Rate	Labor Force	Un-employed Number	Un-employed Rate
2000 Census[1]	264,158	31,697	12%	3,241	799	24.7%
2010 Census[2]	351,110	40,115	11%	4,729	810	17%
2000 – 2010 Change	*+86,952*	*+8,418*	*-1%*	*+1,488*	*+11*	*-8%*
2000 – 2010 % Change	*+32.9%*	*+26.6%*	*-8.3%*	*+45.9%*	*+1.4%*	*-31.2%*
2015 Existing[3]	398,600	39,700	10.0%	5,200	800	15.5%
2010 – 2015 Change	*+47,490*	*-415*	*-1%*	*+471*	*-10*	*-1.5%*
2010 – 2015 % Change	*+13.5%*	*-1%*	*-9.1%*	*+10%*	*-1.2%*	*-8.8%*

1. U.S. Census Bureau, *Census 2000*.
2. U.S. Census Bureau, *Census 2010*.
3. State of California, Employment Development Department, Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP) July 2015 - Preliminary,* August 21, 2015.

Table 5.2-4
Job Data

Year	Kern County (Jobs)	City of McFarland (Jobs)
2013 Baseline Conditions[1]	339,900	3,421
2040 Kern COG Forecasts[1]	501,700	5,200
2013 – 2040 Change	*+161,800*	*+1,779*
2013 – 2040 % Change	*48%*	*52%*

1. Written Correspondence, Ben Raymond, Kern Council of Governments, October 20, 2015.

City of McFarland

As indicated in Table 5.2-3, the City's 2000 civilian labor force totaled approximately 3,241 persons, with an unemployment rate of approximately 24.7 percent. In 2010, the City's civilian labor force totaled 4,729 persons. Between 2000 and 2010, the City's unemployment rate decreased by one third to approximately 17 percent. The U.S. Census 2010 reports that half (approximately 50.6 percent) of the City's labor force was employed in natural resources, construction, and maintenance occupations. The next highest occupation category, representing approximately 15.4 percent, was sales and office occupations. The City' largest industry sector was agriculture, forestry, fishing and hunting, and mining. As of July 2015, the City's labor force was an estimated 5,200 persons, with an unemployment rate of approximately 15.5 percent. Comparatively, the City's existing unemployment rate is more than the County's unemployment rate of 10 percent.

As indicated in Table 5.2-4, the City had an estimated 3,421 jobs in 2013, based on the existing non-residential land uses. Kern COG forecasts the City's job market would total 5,200 jobs by 2040, an increase of approximately 1,779 jobs over 2013 conditions.

The jobs/housing ratio is used as a general measure of balance between a community's employment opportunities and the housing needs of its residents. However, it does not indicate the types of jobs available or if wages are commensurate with housing prices. A ratio of 1.0 or greater generally indicates that a City provides adequate employment opportunities, potentially allowing its residents to work within the City. The City's current jobs/housing ratio is approximately 1.29.[1]

5.2.2 REGULATORY SETTING

REGIONAL

Kern Council of Governments

As the federally-designated Metropolitan Planning Organization and the state-designated Regional Transportation Planning Agency for Kern County, Kern COG is an association of city and county governments that is responsible for developing and updating a variety of transportation plans and for allocating the federal and state funds to implement them. McFarland is a member agency of Kern COG along with Kern County and the cities of Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco.

Kern COG is in the progress of updating the regional growth forecast report, *2015 Growth Forecast Update* (August 7, 2015), which includes four primary socioeconomic measures that directly influence growth, development, resource use, and public finance: number of households, total population, total number of housing units, and employment by major economic sector. These socio-economic estimates and projections are used for federal and state mandated long-range planning efforts such as the RTP/SCS and the *Air Quality Attainment Plan* (AQAP), among others. Additionally, the projections enable the proper planning of infrastructure and facilities to adequately meet the needs of the anticipated growth. The growth forecasts provide population, household, and employment data for 2000, 2010, 2015, 2035, and 2050.

Housing Elements and Regional Housing Needs Assessment (RHNA)

The housing element is one of seven State-mandated general plan elements. Housing element law mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, housing policy in the State rests largely upon the effective implementation of local general plans and, in particular, local housing elements. Housing element law also requires that the California Department of

[1] As of 2013, the jobs/housing ratio is based on 3,421 jobs (Written Correspondence, Ben Raymond, *Kern COG,* October 23, 2015) and 2,641 occupied housing units (U.S. Census, *2009-2013 American Community Survey DP04: Selected Housing Characteristics*).

Housing and Community Development (HCD) review local housing elements for compliance with State law and report its written findings to the local government.

Pursuant to California Government Code (CGC) Section 65584 applicable to the Regional Housing Need Allocation (RHNA) process, HCD is required to determine the RHNA, by income category, for Council of Governments (COGs). The City of McFarland is a member agency of the Kern COG. The Regional Housing Needs Allocation Plan's (RHNA Plan) purpose is to allocate to the cities and County their "fair share" of the region's projected housing need by household income group over the 11-year (January 1, 2013 – December 31, 2023) projection period and includes the cities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, Wasco, and Kern County. On December 30, 2013, HCD determined Kern COG has a RHNA regional housing need of 67,675 for the 11-year projection period. Kern COG works with local governments to allocate the total need to individual cities and counties. Kern County and the 11 cities would have to agree to plan for the region's share of housing. Pursuant to CGC 65583, local governments are required to plan where and how the allocated housing units would be developed within their communities to accommodate their entire RHNA share by income category through the Housing Element of each local government's General Plan. It is noted that a community is not necessarily obligated to construct housing to meet its RHNA share. Thus, rather than a construction need allocation, the RHNA is a distribution of housing development capacity that each city and county must zone for in a given projection period. The current RHNA Allocation Plan is for the fifth housing element cycle and covers an 11- year projection period from January 1, 2013 to December 31, 2023.

2013-2023 Growth Needs

The RHNA Plans per Section 65584[d], must be consistent with all of the following objectives:

1. Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in all jurisdictions receiving an allocation of units for low and very low-income households.

2. Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns.

3. Promoting an improved intraregional relationship between jobs and housing.

4. Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent decennial United States census.

In determining the regional housing needs for each jurisdiction, Kern COG takes into account growth rate and vacancy rates. To ensure that a mix of housing types serving all income levels is available, the allocation numbers are distributed into four income categories: Very Low; Low; Moderate; and Above Moderate. Each jurisdiction must plan for the number of new housing units within each income category.

KERN COUNTY LOCAL AGENCY FORMATION COMMISSION

The Kern County Local Agency Formation Commission (LAFCO) is the governing body that reviews and approves or disapproves with or without amendment, wholly, partially or conditionally proposals for the incorporation of cities, formation of special districts, annexation of territory to local agencies, exclusion of territory from a city, disincorporation of a city, consolidation of two or more cities, and the development of a new community. Kern County LAFCO is responsible for ensuring the laws related to organizational changes are followed, and is responsible for making determinations regarding services provision, land use compatibility, boundaries, and other such issues when organizational changes are proposed.

When reviewing annexation proposal, factors that LAFCO must consider include, but are not limited to the following:

- Population and population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years.

- The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.

- The effect of the proposed action and of alternative actions, on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county.

- The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, efficient patterns of urban development, and the policies and priorities in Section 56377.

- The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Section 56016.

- The definiteness and certainty of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.

- A regional transportation plan adopted pursuant to Section 65080, and its consistency with city or county general and specific plans.

- The SOI of any local agency which may be applicable to the proposal being reviewed.

CITY OF MCFARLAND

Housing Element

The *City of McFarland General Plan Housing Element 2015 – 2023* (Housing Element) was adopted in December 2015. The Housing Element contains an identification and analysis of the City's existing and projected housing needs, an analysis of the various governmental and nongovernmental constraints to meeting that need, and a series of goals, policies, financial resources, and housing programs to further the development, improvement, and preservation of housing.

The McFarland Housing Element is comprised of the following sections:

- *Chapter 1, Introduction:* Provides an overview of the City, the legislative authority, requirements, methodology and data sources for the housing element, related planning efforts, a description of the public outreach process, and review of the previous housing element.

- *Chapter 2, Review of Existing Element:* Provides an overview of the 2008 – 2013 Housing Element, including the program objectives, accomplishments, and if it is appropriate to continue the program.

- *Chapter 3, Existing Housing Needs Assessment:* Provides a summary and analysis of existing housing needs consisting of an analysis of population trends, employment trends, household trends, special needs groups, and housing characteristics.

- *Chapter 4, Future Needs Assessment:* Identifies the unaccommodated needs from the previous element and an analysis of the RHNA projected housing needs.

- *Chapter 5, Site Inventory and Analysis:* Provides a site inventory and an analysis of available sites to meet the housing demand for the current planning period 2015 – 2023.

- *Chapter 6, Analysis of Constraints:* Provides an analysis of potential and actual governmental and nongovernmental constraints on the maintenance, improvement, and development of housing in the City.

- *Chapter 7, Housing Programs:* Contains specific goals, policies, a summary of financial resources and housing programs, and quantified objectives that have been developed in response to the existing housing needs of the community, and reflect the policy direction received from the public workshops, Planning Commission, and City Council.

The five goals around which the Housing Element is organized are:

- *Goal 1:* Maintain and improve the quality of existing housing and residential neighborhoods in McFarland.

- *Goal 2:* Facilitate the provision of a range of different housing types to meet the needs of the community.

- *Goal 3:* Provide adequate housing sites through appropriate land use and zoning designations to accommodate the City's share of regional housing needs.

- *Goal 4:* Mitigate or remove any potential governmental constraints to housing production and affordability.

- *Goal 5:* Promote equal opportunity for residents to reside in the housing of their choice.

- *Goal 6:* Develop complete neighborhoods that provide residential, commercial, recreational and economic opportunities to residents of the neighborhood.

According to the 2015-2023 RHNA and Allocation Plan, Kern COG determined the housing needs of McFarland for the 2015-2023 projection period is 311 housing units; refer to Table 5.2-5, *RHNA Allocation 2015-2023*. Table 5.2-5, summarizes the specific number of housing units anticipated to be served between 2015 and 2023. Based on an inventory of available land, including undeveloped and infill lots, the City determined that there is available capacity to meet its RHNA housing demand for the 2008-2013 planning period (availability for 1,486 units on 183 acres).

Table 5.2-5
RHNA Allocation 2015-2023

Income Category	Housing Allocation (Units) 2015-2023 RHNA[1]
Very Low	93
Low	73
Moderate	66
Above Moderate	79
Total	***311***

Source: City of McFarland, *Housing Element 2015-20213*, December 2015.

Income Categories:
Very Low Income: Four-person household does not exceed 50 percent of the median family income of the county.
Low Income: Four-person household with income between 51 percent and 80 percent of the county median family income.
Moderate Income: Four-person household with income between 81 percent and 120 percent of the county median family income.
Above Moderate Income: Four-person household with income 121 percent or more of the county median family income.

Land Use Element

The General Plan Land Use Element provides a road map for future development by determining the allowable use of existing and future parcels of land and ensuring that adjacent land uses are compatible with one another. The land use element allows for a variety of residential and non-residential uses. Objectives and policies guide development, including the provision of residential and employment-generating land uses.

5.2.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, population, employment, and housing impacts resulting from project implementation may be considered significant if they would result in the following:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); refer to Impact Statement PHE-1.

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere; refer to Impact Statement PHE-2.

Based on these significance thresholds and criteria, the proposed project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact".

5.2.4 IMPACTS AND MITIGATION MEASURES

POPULATION GROWTH

PHE-1 PROJECT IMPLEMENTATION COULD INDUCE SUBSTANTIAL POPULATION GROWTH IN THE PLANNING AREA.

Impact Analysis: Project implementation would assign land use designations to approximately 1,978 acres within the southern portion of the City's sphere of influence (SOI) and change existing land use designations for several properties within the City boundaries to provide consistency between existing development and the General Plan land use designations or in order to guide future growth, development or redevelopment of primarily undeveloped or underutilized parcels within the City (Exhibit 3-3, *McFarland General Plan Planning Area*).

Table 3-1, *Estimated Development Potential*, summarizes the estimated development potential based upon the land use designations and estimates for the amount of development that could occur within the planning area over the next 25 years (to approximately 2040) if all sites with the opportunity for development are developed to their identified potential. As indicated in Table 3-1, approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage could be accommodated within the project area.

A project could induce population growth in an area, either directly (for example, by proposing new residential and employment-generating land uses) or indirectly (for example, through

extension of roads or other infrastructure). Although it is anticipated that improvements/ modifications to existing roads and infrastructure would need to occur to accommodate future development (refer to Section 5.4, *Traffic and Circulation*), site-specific development is not currently being proposed. New roadways or modifications to existing roadways would be extended from the surrounding circulation system to serve specific development being proposed at that time. Therefore, extension of roads or other infrastructure would not induce direct population growth in the project area, but rather serve development occurring in the area. However, the project proposes new residential and employment-generating land uses, which could induce direct population growth in the project area.

Existing Plus Project Conditions

The project anticipates the future development of new residential and non-residential land uses, which would directly induce population growth within the planning area. Table 5.2-6, *Project Compared to Existing Conditions*, compares the proposed project's anticipated growth in population, housing, and employment to existing conditions in the City. As indicated in Table 5.2-6, the potential development of 4,849 dwelling units could result in a direct population growth of 21,073 persons assuming full occupancy, which would represent a 166 percent increase over existing (2015) conditions. Therefore, the project would induce substantial population growth in the project area thru new residential land uses.

Table 5.2-6
Project Compared to Existing Conditions

Description	Housing (Dwelling Units)	Households (Occupied Dwelling Units)	Population (Persons)	Employment (Jobs)
Existing				
Existing Conditions	2,916[1]	2,826[1]	12,659[3]	3,421[2]
Project				
Residential Land Uses	4,849	4,699	21,052[3]	-
Nonresidential Land Uses	-	-	-	21,179[4]
Total	**4,849**	**4,699**	**21,052**	**21,179**
Existing + Project Conditions				
Existing / Project Implemented Total	7,765	7,525	33,711	24,600
Existing / Project Implemented % Change	*166%*	*166%*	*166%*	*619%*

Notes:
1. State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State — January 1, 2011- 2015.* Sacramento, California, May 2015.
2. Based on employment estimates in 2013 from Written Correspondence, Ben Raymond Kern COG, October 20 and 26, 2015.
3. Assumes 4.48 persons per household (State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State – January 1, 2015,* Sacramento, California, May 1, 2015).
4. Based on the total number of employees anticipated by the proposed non-residential development per *McFarland General Plan Amendment Traffic Impact Analysis Table 6.*

As indicated in Table 5.2-6, the proposed project is anticipated to increase the City's employment by approximately six times (21,179 jobs). This employment growth could result in population growth within the project area, as the potential exists that future employees (and their families) would choose to relocate to the area. Estimating the number of these future employees who would choose to relocate would be highly speculative, since many factors influence personal housing location decisions (e.g., family income levels and the market demand, cost, and availability of suitable housing in the local area).

Therefore, the project has the potential to induce direct population growth in the project area, due to development of employment-generating land uses. The proposed project anticipates the development of 4,849 dwelling units, which could be occupied by the project's new employees. Additionally, as of August 2015, the City's unemployment rate was 15.5 percent (800 persons) (refer to Table 5.2-3) and the unemployment rates in the surrounding cities were as follows:[2]

- Bakersfield: 16,000 unemployed persons (8.9 percent);
- Delano: 2,400 unemployed persons (11.9 percent);
- Shafter: 600 unemployed persons (8.5 percent); and
- Wasco: 1,100 unemployed persons (13.2 percent).

Collectively, these existing unemployment rates amount to approximately 20,900 unemployed persons. Therefore, the jobs created by the proposed project could be filled in part by unemployed persons who already reside in McFarland and/or surrounding cities. Combined, the anticipated residential development and existing unemployment would offset the potential population growth associated with employment-generating land uses.

Forecast Year 2040 Conditions

Potential growth inducing impacts are also assessed based on a project's consistency with adopted plans that have addressed growth management from a local and regional standpoint. As discussed above, Kern COG is the responsible agency for developing and adopting growth forecasts for Kern County and the 11 incorporated cities within Kern County. Kern COG's RTP/SCS provides population, household, and employment forecasts for 2040 (as well as for 2010 and 2020).

Table 5.2-7*, Project Compared to Kern COG*, compares the proposed project's household, population, and employment projections for the City with Kern COG's 2040 forecasts. As indicated in Table 5.2-7, the proposed project is forecast to result in 4,704 households (4,849 dwelling units), with a resultant population of approximately 21,168 persons. Kern COG forecasts the City would grow to 3,500 households by 2040 (an extrapolated 3,608 dwelling units), with a resultant population of approximately 20,800 persons. It should be noted that this only considers growth within the City's current incorporated limits. The project does not currently propose site-specific development on any site within the City or SOI. A SOI describes the City's probable physical boundaries and service area and can therefore be used as a benchmark for the maximum extent of the City's future service area. It defines the primary area within which urban development is to be encouraged. The City's General Plan can address how land in the SOI is planned for and developed in anticipation of future annexation; however, land use jurisdiction over the SOI remains with the County. There are currently no annexation proposals for any land within the SOI. Any future annexation proposals to extend the City's

[2] State of California, Employment Development Department, Labor Market Information Division, *Monthly Labor Force Data for Cities and Census Designated Places (CDP) July 2015 - Preliminary,* August 21, 2015.

corporate boundaries would require review and approval by Kern County LAFCO. In reviewing future annexation proposals, LAFCO would consider several factors including, but not limited to population and population density and the likelihood of significant growth in the area and in adjacent incorporated areas during the next 10 years; the need for need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas; the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change; the extent to which the proposal will affect a city or cities, and the county in achieving their respective fair shares of the regional housing needs; and any information relating to existing land use designations.

Table 5.2-7
Project Compared to Kern COG

Description	Housing (Dwelling Units)	Households (Occupied Dwelling Units)	Population (Persons)	Employment (Jobs)
Existing + Project Conditions[1]	7,765	7,525[2]	33,711[3]	24,600
2040 Kern COG Forecasts[4]	3,612[5]	3,500	20,800	5,200
Project / Kern COG Difference[4]	+4,153	+4,025	+12,911	+19,400
Exceeds Kern COG Forecast?	***Yes***	***Yes***	***Yes***	***Yes***

Notes:
1. See Table 5.2-7, *Project Compared to Existing Conditions*.
2. The project's housing was extrapolated based on proposed housing dwelling units and a 3.1 percent vacancy rate.
3. The project's population was extrapolated based on the project's households and a 4.48 persons per household rate.
4. Written Correspondence, Ben Raymond Kern COG, October 20 and 26, 2015.
5. Kern COG does not provide housing forecasts. This housing forecast was extrapolated based on Kern COG's 2040 household forecast and a 3.1 percent vacancy rate.

Thus, any future development would be reviewed to ensure that the proposed development would be consistent with the City's General Plan and that adequate services would be available to serve the development being proposed at the time. Furthermore, as Kern COG is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every four or five years, anticipated growth identified by the proposed project would be integrated into the next RTP's future growth forecasts. Therefore, the proposed project would not conflict with Kern COG's RTP/SCS.

From a regional perspective, the emphasis regarding growth has been placed primarily on achieving a balance of employment and housing opportunities within the region; refer to Section 6.3, *Growth Inducing Impacts*. The City's current jobs/housing ratio is approximately 1.17, indicating the City is currently sufficient with employment opportunities for its residents to potentially work within the City. However, residents within the City currently experience an unemployment rate of 15.5 percent. Further, high wage opportunities within the City are relatively limited. Implementation of the proposed project is anticipated to increase the project area's housing stock by 166 percent (4,849 dwelling units) and employment by 619 percent (21,179 jobs), resulting in a forecast jobs/housing ratio of approximately 4.37. This would

improve the planning area's jobs/housing balance by providing more employment opportunities for residents to potentially work in the area. Additionally, the opportunity for manufacturing and industrial uses could provide increased potential for higher wage jobs in the City. Therefore, the project would beneficially impact the City's jobs/housing balance, by improving the jobs/housing ratio when compared to existing conditions.

The McFarland General Plan establishes land use objectives and goals that consider population growth by addressing the City's jobs/housing balance through job creation and mixed land uses. In furtherance of achieving these objectives and goals, all future development within the City would be subject to implementation of the General Plan objectives and policies, including those outlined below. Implementation of the specified policies would ensure the anticipated population growth would result in less than significant impacts.

Overall, the project's forecast population growth would occur over the next 25 year period subject to LAFCO annexation procedures which would ensure adequate services and systems are available to serve development being proposed. Further, as Kern COG is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every four or five years, development anticipated by implementation of the proposed project would be integrated into the future growth forecasts. As such, the forecast population growth would comply with Kern COG growth forecasts accordingly. Additionally, all future development would be required to be consistent with the City's specified General Plan Policies. Therefore, project implementation would result in less than significant impacts involving population growth.

It is noted that all future residential development within the City would be subject to implementation of specified policies in the City's 2015 – 2023 Housing Element, which provide various programs and tools to implement the City's housing Goals, guide residential development, and preserve a balanced inventory of housing to meet the needs of the City's present and future residents.

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.

Policy G1.2: Establish land use policies that encourage a balance of jobs and housing.

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Policy G3.2: The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

DISPLACED PERSONS AND REPLACEMENT HOUSING

PHE-2 PROJECT IMPLEMENTATION WOULD NOT DISPLACE HOUSING OR PEOPLE, NECESSITATING THE CONSTRUCTION OF REPLACEMENT HOUSING.

Impact Analysis: The project would not displace housing or persons through removal of existing uses, since site-specific development is not proposed. As previously discussed, the proposed project would result in assigning land use designations within the southern portion of the City's SOI and changing existing land use designations for several properties within the City boundaries. For the majority of these properties within the City limits, the proposed land use designations would reflect development that currently occurs on the site, providing consistency between on-site land uses and the General Plan. The project does not anticipate transition or redevelopment of these sites in the near future that would involve the displacement of housing or people. For the remaining sites, most are currently undeveloped or underutilized and do not involve housing.

As noted above, the project anticipates the future development of 4,849 dwelling units comprised of a variety of residential uses (low density residential, medium density residential, and mixed-use land use designations) that would provide additional housing opportunities within the City. Therefore, the proposed project would not displace persons requiring the construction of replacement housing. A less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Objective Rl: Provide adequate land in a range of residential densities to accommodate the housing needs of all income groups both residing and expected to reside in McFarland, while ensuring a high quality of residential development.

Policy R1.2: Prior to the approval of a subdivision of land other than a parcel map, a zoning entitlement such as a Conditional Use Permit shall be approved. Said

Conditional Use Permit or similar entitlement shall condition the residential development project to be consistent with the dedication requirements of the General Plan.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.2.5 CUMULATIVE IMPACTS

PHE-3 DEVELOPMENT ANTICIPATED BY THE PROJECT AND CUMULATIVE DEVELOPMENT COULD INDUCE SUBSTANTIAL POPULATION GROWTH IN THE KERN COUNCIL OF GOVERNMENTS SUBREGION.

Impact Analysis: Cumulative impacts involving population, housing, and employment are analyzed in terms of consistency with Kern COG growth assumptions for the Kern region. The proposed project would assign land use designations to the southern portion of the City's SOI in order to guide future growth and development. Although the project does not currently propose site-specific development or any annexation proposals for land within the SOI, the project anticipates future development of 4,456 dwelling units and non-residential uses within the SOI. As concluded above, the project could induce population growth both through housing and employment generating land uses. Therefore, the project's incremental effects involving population growth are cumulatively considerable. However, any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. Thus, any future development would be reviewed to ensure that the proposed development would be consistent with the City's General Plan and that adequate services would be available to serve the development being proposed at the time. The project would not displace substantial numbers of people or housing, or create a housing demand that would necessitate construction of replacement housing elsewhere. Therefore, the project's incremental effects involving displacement and replacement housing are not cumulatively considerable.

Kern COG forecasts the Kern region would grow to 456,100 households (501,710 dwelling units extrapolated), with a resultant population of approximately 1,444,100 persons, and 501,700 jobs by 2040. With an existing population of approximately 874,264 persons, the region's population is forecast to grow approximately 65 percent between 2015 and 2040. As shown in Table 5.2-6, the proposed project's household, population, and employment forecasts for the City would cause Kern COG's 2040 forecasts to be exceeded for the City. However, this is based on the City's existing incorporated limits. As discussed previously, Kern COG is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every four or five years. With the update, the proposed project's future growth forecasts would be integrated in the regional forecast growth assumptions. Additionally, the emphasis regarding growth has been placed primarily on achieving a balance of employment and housing opportunities, and the project would improve the area's jobs/housing balance. Further, any future annexation proceedings would require review and approval by LAFCO. As part of that review, LAFCO would consider the development being considered and its contribution to providing planned, orderly, efficient patterns of urban development with available services to accommodate the growth. Therefore, the combined cumulative impacts to population growth from the project's

incremental effects and those of the cumulative projects in the region would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.2.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Population, housing, and employment impacts resulting from project implementation would be less than significant. No significant unavoidable population, housing, or employment impacts would occur as a result of the project.

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Section 5.3
Aesthetics/Light and Glare

5.3 AESTHETICS/LIGHT AND GLARE

This section describes the existing visual environment in and around the project area and assesses the potential for aesthetic impacts using accepted methods of evaluating visual quality, as well as identifying the type and degree of change the proposed McFarland General Plan Amendment (GPA) would likely have on the character of a landscape. The analysis in this section is primarily based on information provided by the City of McFarland staff and verified through a site visit conducted by Michael Baker International (Michael Baker) on June 28, 2015. Where additional information has been used to evaluate the potential impacts, that information has been referenced. This analysis acknowledges that individual development projects would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning considerations. The phasing and exact details of each project would be evaluated by the City on a case-by-case basis, including specific project design (subject to change per the City's design review process).

5.3.1 EXISTING SETTING

VISUAL SETTING AND CHARACTER

The City of McFarland (City) is located within the Central Valley, approximately 20 miles north of Bakersfield. Since the early 1900s, the City has been characterized as a small agricultural and livestock based community. Currently, the developed portions of the City are comprised of a central business district and usually homogeneous residential neighborhoods. Commercial and industrial businesses are primarily located along Perkins Avenue, Sherwood Avenue, Kern Avenue, and Industrial Street. The downtown commercial area is not distinctly separated from surrounding homes, but is merged with older residential neighborhoods, forming a residential-commercial transition area. Parks, churches, and schools are distributed throughout the City. Regional access to the City is provided via State Route 99 (SR-99), which bisects the City in a north/south orientation, separating the eastern portion of the City from the western portion of the City. Land uses surrounding the City boundaries include a large variety of crops, which include a portion of the project site. These areas of agricultural greenbelts generally define the City's edge.

The project site consists of single-family residential, park, and agricultural land uses; refer to Exhibit 5.3-1, *Existing Condition Photographs*. The project area's visual character is dominated by vineyards, orchards, and other agricultural-related uses including wide open fields with numerous trees and row crops. Building structures for agricultural operations are also dispersed throughout the periphery of the project boundary. The project site is surrounded by urban/developed land and additional agricultural land, which generally consists of single-family residential, institutional, park, and commercial uses to the north, and agricultural uses to the south, east, and west.

LIGHT AND GLARE

Lighting effects are associated with the use of artificial light during the evening and nighttime hours. There are two primary sources of light: light emanating from building interiors passing through windows and light from exterior sources (i.e., street lighting, building illumination, security lighting, parking lot lighting, and landscape lighting). Light introduction can be a

Typical view of on-site agricultural row crop uses.

Typical view of on-site fallow land uses.

Typical view of on-site orchards.

View of existing on-site residential uses located in the northwestern portion of the project site.

View of existing on-site open space.

Typical view of on-site dairy farm uses.

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Existing Condition Photographs

Michael Baker INTERNATIONAL

04/16 • JN 143076

Exhibit 5.3-1

nuisance to adjacent residential areas, diminish the view of the clear night sky and, if uncontrolled, can cause disturbances. Uses such as residences and hotels are considered light sensitive, because occupants have expectations of privacy during evening hours and may be subject to disturbance by bright light sources. Light spill is typically defined as the presence of unwanted light on properties adjacent to the property being illuminated. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light source, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Perceived glare is the unwanted and potentially objectionable sensation as observed by a person looking directly into the light source of a luminaire. Daytime glare generation is common in urban areas and is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses include residences, hotels, transportation corridors, and aircraft landing corridors.

Currently, the lighting conditions are concentrated in the developed portion of the City. Minimal lighting is present on-site, within the surrounding agricultural belt. Existing lighting emanating from the City includes street lighting, outdoor security lighting associated with existing structures, and light emanating from the interior of existing structures (e.g., residential uses). Lighting from vehicle headlights traveling along SR-99 are also present. Existing daytime glare is present in association with the surrounding agricultural belt areas. Daytime glare sources include irrigation practices and man-made pond features associated with agricultural and dairy farm uses.

5.3.2 REGULATORY SETTING

STATE

California Scenic Highways and Historic Parkways Program

The California Scenic Highways and Historic Parkways Program was created in 1963 to preserve and protect highway corridors located in areas of outstanding natural beauty from changes that would diminish the aesthetic value of the adjacent lands. The State of California Department of Transportation (Caltrans) maintains its State Scenic Highways and Historic Parkways Program, through which segments of the State highway system are designated as being of particular scenic value or interest. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. Interstates, state highways, byways, and parkways are eligible for designation or for recognition as eligible for designation. The Program is governed by the regulations found in the California Streets and Highways Code, Section 260 et seq.

California Streets and Highway Code Section 261 requires local government agencies to take the following actions to protect the scenic appearance of the scenic corridor:

- Regulate land use and density of development;
- Provide detailed land and site planning;
- Prohibit offsite outdoor advertising and control of on-site outdoor advertising;
- Pay careful attention to and control of earthmoving and landscaping; and
- Scrutinize the design and appearance of structures and equipment.

California Streets and Highway Code Section 263 allows the California State Legislature the authority to identify highways as eligible for designation as a scenic highway. The government with jurisdiction over land abutting a highway considered to be scenic is required to adopt a "scenic corridor protection program" that restricts development, outdoor advertising, and earthmoving activities along the affected segment or corridor ("Corridor Protection Program"). Caltrans must also indicate that the highway segment meets established criteria in order for the roadway or segment to be designated as scenic.

There are presently no officially designated State Scenic Highways that traverse McFarland.[1]

CITY OF MCFARLAND

Land Use Element

The General Plan Land Use Element provides a road map for future development by determining the allowable use of existing and future parcels of land and ensuring that adjacent land uses are compatible with one another. Objectives and policies address the placement of uses, including providing high quality development that considers the look and feel of the area and the needs of the user.

Open Space, Conservation and Recreation Element

The Open Space, Conservation, and Recreation Element provides for the protection and preservation of open space and recreational land within the City. Objectives and policies seek to capitalize on the unique natural setting of the area and ensure that development considers the open space, conservation, and recreation needs of the community. The Element also includes the following standards to address development activities within the City and to protect the visual character of the area.

RECREATIONAL LAND STANDARDS

Screening. Effective screening of play areas and offensive uses shall be accomplished by use of plantings and fences.

Earthwork Operations. Grading operations shall be done in a manner which produces naturalistic land forms. Vegetation cover and other screening should be provided to hide scars. Adequate erosion control measures shall be provided.

[1] California Department of Transportation Website, California Scenic Highway Mapping System, Officially Designated State and County Scenic Highways, http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm, Accessed May 26, 2015.

SCENIC LAND STANDARDS

Land Use Zoning. Land use zoning regulations and development standards, consistent with policies of the general plan, will be in effect in the scenic land area.

Screening. Existing indispensable, offensive land uses should be screened from view. Effective screening shall be accomplished by proper use of planting, grading, or fencing.

Earthwork Operations. Grading or earthwork operations shall be done in a manner which produces naturalistic land forms. Vegetative cover and other screen devices shall be provided to hide the scars. Adequate erosion control measures shall be provided.

Preservation. Existing specimens and stands of trees and other plant materials of outstanding value should be preserved. Fauna and wildlife habitat in this area shall also be preserved.

Development Design. Site planning, architectural, and landscape architectural design should result in an attractive appearance and harmonious relationship among the various elements of the development and with the existing landscape.

5.3.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Have a substantial adverse effect on a scenic vista; refer to Section 8.0, *Effects Found Not To Be Significant*.
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway; refer to Section 8.0, *Effects Found Not To Be Significant*.
- Substantially degrade the existing visual character or quality of the site and its surroundings; refer to Impact Statements AES-1 and AES-2.
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area; refer to Impact Statement AES-3.

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a “significant and unavoidable impact”.

5.3.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM VISUAL CHARACTER

AES-1 GRADING AND CONSTRUCTION ACTIVITIES ASSOCIATED WITH FUTURE DEVELOPMENT COULD TEMPORARILY DEGRADE THE EXISTING VISUAL CHARACTER/QUALITY OF THE RESPECTIVE DEVELOPMENT SITES AND THEIR SURROUNDINGS.

Impact Analysis: Short-term construction-related activities associated with future development at the project site would temporarily alter the existing visual character of the development sites and their surroundings. The visual impact associated with construction activities would involve graded surfaces, construction materials, equipment, and truck traffic. Soil would be stockpiled and equipment for grading activities would be staged at various locations. In addition, temporary structures could be located on the respective development site(s) during various stages of construction, within materials storage areas, or associated with construction debris piles on site. Exposed trenches, roadway bedding, spoils/debris piles, and steel plates would be visible during construction of proposed street and utility infrastructure improvements. These construction activities and equipment could temporarily degrade the existing visual character and quality of localized sites within the General Plan planning area and their surroundings during the construction phase. The typical "window" of construction-related activities at a particular location would vary depending on the scale and nature of the proposed development.

Construction-related activities are not considered significant, because they would be short-term and temporary; construction activity would not be continuous and would proceed on a project-by-project basis. Temporary screening of a particular construction or staging site would partially relieve the visual impacts typically associated with construction activities (Mitigation Measure AES-1). Moreover, development areas would vary such that areas of temporary construction-related visual impacts would change depending upon the location of development within the Planning Area. Notwithstanding, compliance with Mitigation Measure AES-1, which would be incorporated into construction documents, would reduce potential construction-related visual impacts to less than significant levels.

Mitigation Programs:

General Plan Objectives/Policies:

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Project Mitigation Measures:

AES-1 For future development located in proximity to residentially zoned properties, as deemed necessary by the City's Planning Director, prior to issuance of the Grading Permit, construction documents shall include language that requires all construction contractors to strictly control the staging of construction equipment and the cleanliness of construction equipment stored or driven beyond the limits of the construction work area. Construction equipment shall be parked and staged within the development site. Staging areas shall be screened from view from residential

properties. Construction worker parking may be located off-site with prior approval by the City; however on-street parking of construction worker vehicles on residential streets shall be prohibited. Vehicles shall be kept clean and free of mud and dust before leaving the development site. Surrounding streets shall be swept daily and maintained free of dirt and debris.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

LONG-TERM VISUAL CHARACTER

AES-2 FUTURE DEVELOPMENT WITHIN THE GENERAL PLAN PLANNING AREA COULD SUBSTANTIALLY DEGRADE THE EXISTING VISUAL CHARACTER/ QUALITY OF THE RESPECTIVE DEVELOPMENT SITES AND THEIR SURROUNDINGS.

Impact Analysis: The project site consists of single-family residential, park, and agricultural land uses. As illustrated on Exhibit 5.3-1, the project area's visual character is dominated by vineyards, orchards and other agricultural-related uses including wide open fields of numerous trees and row crops. Building structures for agricultural operations are also dispersed throughout the periphery of the project boundary. The project site is surrounded by urban/developed and agricultural land, which generally consists of single-family residential, institutional, park, and commercial to the north, and agricultural uses to the south, east, and west.

Development of the proposed project would introduce a varied mix of residential, office, commercial, mixed-use, industrial, public, and institutional land uses to the project area, which would alter the visual character of the project site and its surroundings. The GPA would change existing General Plan land use designations for several properties located within the City limits; refer to Exhibit 3-3, *Proposed Sites for General Plan Land Use Changes*. For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s). The project would therefore provide consistency between existing development and the General Plan land use designation. For the remaining properties, the proposed land use changes would guide future growth, development, and redevelopment of primarily undeveloped and underutilized parcels within the City in order to better serve and enhance existing and future development anticipated within the planning area. However, these land use changes could result in extensive development of existing rural/agricultural land surrounding the City, substantially changing the character of these portions of the project site.

In addition to the proposed land use changes within the City limits, the Land Use Map would be amended in order to assign land use designations to approximately 1,978 acres within the southern portion of the City's SOI, consistent with the Land Use Element. Exhibit 3-4, *Proposed General Plan Land Use*, illustrates the proposed Land Use designations for the parcels within the City limits and SOI.

Table 3-1, *Estimated Development Potential*, summarizes the estimated development potential based upon the land use designations and estimates for the amount of development that could occur within the planning area over the next 25 years (to approximately 2040) if all sites with the opportunity for development are developed to their identified potential. Since the sites are primarily undeveloped and/or underutilized, for purposes of the environmental analysis, the

anticipated growth does not take into account any reductions associated with removal of any existing uses that occur within the sites. Thus, the environmental analysis is conservative.

As indicated in Table 3-1, approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage could be accommodated. However, it should be noted that the project does not propose site-specific development on any site within the City or SOI. Individual development projects would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning considerations. The phasing and exact details of each project would be evaluated on a case-by-case basis. Regarding the potential development, although there is no immediate physical development associated with the project, the analysis in this document would evaluate the potential impacts commensurate with the degree of specificity involved in the GPA.

The GPA also involves new policies and objectives within the Land Use Element associated with the new mixed-use and highway commercial designations and to address high quality development within the City. These new designations would also allow for increased development intensities within the City and project site. The project proposes new principles, objectives, and policies, applicable to aesthetics that would be applicable to the new land use designations proposed. These include the design and scale of future development to be human-scale, providing for complementary land uses, protecting quality of life, and consideration of the placement of buildings, parking, and the overall quality and character of development with the surrounding area.

The policies and objectives associated with the new mixed-use land use designation would be applicable to any future mixed-use development that may occur on sites designated Mixed-Use within the planning area. Similarly, the policies and objectives associated with the new Highway Commercial land use designation would be applicable to any future development that may occur on sites designated highway commercial within the planning area.

The new policies and objectives that address high quality development would be applicable to any future development within the planning area. Per the General Plan Land Use Element, *General Principals*, implementation of the proposed project would respect the agricultural heritage of the City and would continue to maintain the well-defined agricultural greenbelt edge of the City. Further, proposed Mixed-Use and Highway Commercial land uses situated along SR-99 would allow for the City to create gateways to provide distinctive entrances to McFarland, particularly at key access points along the SR-99 Corridor and major entrances to the City.

Overall, implementation of the proposed GPA would lead to greater urbanization within the southeastern quadrant of the City's sphere of influence and potentially throughout the City as a result of the two new land use designations. However, the proposed GPA Land Use Policy Map establishes consistent and compatible development intensities that would maintain and enhance the overall visual character/quality of the City.

All future development within the City would be evaluated on a project-by-project basis in order to verify compliance with the provisions of the Municipal Code. Development within the project site would be required to comply with the City's Zoning Code, Title 17 of the Municipal Code, including meeting standards/regulations pertaining to building heights, setback requirements, and required distances between buildings. Compliance with the Municipal Code would ensure orderly growth and development that would maintain the community's rural characteristics in appropriate locations. Additionally, compliance with the Municipal Code would result in high

quality planning and design for development, that enhances the City's visual character and avoids conflicts between land uses.

Therefore, despite the intensification of development at existing rural/agricultural properties at the project site, degradation to the character of the development properties or their surroundings (or the General Plan planning area overall) resulting from the GPA's proposed changes would be avoided through compliance with the Municipal Code development standards and design standards/guidelines, as well as the new General Plan goals, policies, and objectives, as outlined above. Further, this intensification of development would be a continuation of the existing development present in the City and rural/agricultural land would continue to surround the project site and remainder of the City boundaries. Thus, a less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.

Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings.

Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas.

Policy G1.5: Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.

Policy G1.6: Emphasize City gateways that create a distinct and positive impression of the city.

Objective G2: Minimize conflicts between land uses.

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Objective G3: Discourage leapfrog and sprawl development.

Objective G5: Protect agricultural land.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.
d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Objective G7: Ensure the quality and character of the City of McFarland by compliance with relevant codes and regulations.

Policy G7.2: Provide equitable, consistent and effective code enforcement that resolves complains and addresses quality of life issues that come from poorly maintained properties.

Objective R3: Provide for high quality of subdivision design that promotes pedestrian and bicycle access and recreational opportunities.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R.3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Objective R4: Encourage a mixture of densities.

Policy R4.2: The placement of large mass buildings adjacent to smaller scale buildings shall be avoided.

Policy C1.1: The following residential designations shall be used:

e. Highway Commercial - This designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants or other visitor-serving uses. Highway Commercial nodes may be located directly adjacent to SR-99 and the Whisler Interchange. 70% of the lot can be utilized for buildings.

Policy C1.7: Prohibit blank walls along street facades.

Policy C1.8: In order to maintain the definition of the street edge, development shall incorporate a landscaped setback buffer for parking that must be along a street frontage.

Policy C1.13: A landscaped setback shall be planted and maintained along property line between commercial/office uses and residential properties that have a common property line.

Policy C1.14: A masonry wall shall be erected along the property line where commercial and office uses have a common property line with residentially designated properties.

Policy C1.15: Discourage the construction of marginal, disjointed strip center commercial development within the City.

Policy C1.16: Provide convenient freeway access for regionally-serving commercial centers to attract a regional customer base.

Policy C1.17: Focus commercial retail centers adjacent to major transportation corridors.

Policy C1.18: Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

Objective C2: Foster well designed Highway Commercial Uses adjacent to SR-99.

Policy C2.1: Require the use of landscaping, berms, architectural feature and other amenities to present a well-designed and inviting frontage to SR-99. Outdoor storage areas shall be screened.

Policy L1.4: Loading areas are to be located at the rear of buildings and not along the primary facade.

Policy L1.7: Landscape buffers shall be provided between industrial buildings, parking lots and adjacent land uses.

Policy L1.8: Discourage buildings with blank walls that lack articulation.

Policy L1.9: Large parking fields shall be discouraged.

Policy L1.10: All industrial areas adjacent SR-99 shall be designed so that truck bays, trash areas, loading docks and other similar area are screened from view from the highway.

Objective 1: Achieve a balanced distribution of open space land which will provide an attractive environment essential to a sound economy.

Policy 1a: Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

LIGHT AND GLARE

AES-3 FUTURE DEVELOPMENT WITHIN THE GENERAL PLAN PLANNING AREA COULD CREATE A NEW SOURCE OF LIGHT AND/OR GLARE, WHICH COULD AFFECT DAYTIME AND/OR NIGHTTIME VIEWS IN THE AREA.

Impact Analysis: Currently, the lighting conditions are concentrated in the developed portion of the City. Minimal lighting is present on-site, within the surrounding agricultural belt. The project would result in the future development of residential, office, commercial, mixed-use, industrial, public, and institutional land uses within the project site. This potential development could result in increased lighting at the project site, where minimal lighting currently exists. These new lighting sources would generally appear similar in character as the existing developed uses in the City. Short-term lighting impacts would be associated with construction activities, which are anticipated to be limited to nighttime lighting (for security purposes) in the evening hours. The future site-specific uses within the project area would introduce new sources of light including street lighting, security lighting, parking lot lighting, and lighting associated with the interior of structures that could potentially affect neighboring uses. Potential new sources of glare would include new building materials, which would appear similar in character to the existing development within the City. As such, the short- and long-term operations may create new sources of light, where none currently exists, which could adversely affect nighttime views in the area.

For those proposed development projects within the boundaries of the project site that include non-residential uses adjoining residential uses, the applicant(s) would be required to comply with Mitigation Measure AES-2, which would require that the Project applicant(s) prepare and submit an Outdoor Lighting Plan that illustrates that all exterior lighting does not spill over onto the adjacent uses. With implementation of the recommended Mitigation Measure AES-2, impacts associated with new sources of light and glare would be reduced to less than significant levels.

Mitigation Programs:

General Plan Objectives/Policies:

Policy G2.1: Encourage development activities that acknowledge the protection and enhancement of quality of life in the City's neighborhoods.

Project Mitigation Measures:

AES-2 For proposed non-residential uses that adjoin residential uses, the Project applicant shall ensure that any exterior lighting does not spill over onto the adjacent uses. The Project applicant shall prepare and submit an Outdoor Lighting Plan to the City's

Planning Director for review and approval, prior to issuance of any building permit that includes a footcandle map illustrating the amount of light from the Project site at adjacent light sensitive receptors. All exterior light fixtures (including street lighting) shall be shielded or directed away from adjoining uses. Landscape lighting levels shall respond to the type, intensity, and location of use. Safety and security for pedestrians and vehicular movements shall be anticipated.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.3.5 CUMULATIVE IMPACTS

SHORT-TERM VISUAL CHARACTER

AES-4 PROJECT CONSTRUCTION ACTIVITIES, COMBINED WITH CONSTRUCTION ACTIVITIES FOR OTHER RELATED CUMULATIVE PROJECTS, COULD TEMPORARILY DEGRADE THE VISUAL CHARACTER/QUALITY OF THE DEVELOPMENT SITES AND THEIR SURROUNDINGS.

Impact Analysis: Future development within the project site and surrounding area could occur at the same time and, depending on each specific location, any two or more projects could be viewed at the same time. However, with implementation of the recommended Mitigation Measure AES-1, the future development within the project site would be required to implement measures to reduce the negative visual impacts associated with grading and construction (Mitigation Measure AES-1). Thus, with implementation of recommended mitigation, an overall cumulatively considerable impact would not result and the proposed project would not contribute to the cumulative degradation of character/quality at the project site.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure AES-1.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

LONG-TERM VISUAL CHARACTER

AES-5 FUTURE DEVELOPMENT WITHIN THE GENERAL PLAN PLANNING AREA, COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS, COULD SUBSTANTIALLY DEGRADE THE EXISTING VISUAL CHARACTER/QUALITY OF THE RESPECTIVE DEVELOPMENT SITES AND THEIR SURROUNDINGS.

Impact Analysis: Future development within the project site and in the surrounding area would result in intensification of development, compared to the existing rural/agricultural land uses. However, as discussed in Impact Statement AES-2, despite the intensification of development at existing rural/agricultural properties at the project site, degradation to the character of the development properties or their surroundings (or the General Plan planning

area overall) resulting from the GPA's proposed changes would be avoided through compliance with the Municipal Code development standards and design standards/guidelines, as well as the new General Plan goals, policies, and objectives, as outlined above. Further, this intensification of development would be a continuation of the existing development present in the City and rural/agricultural land would continue to be located in the surrounding area. Thus, with compliance with the City's General Plan policies and standards/regulations provided in the Municipal Code, cumulative impacts to long-term character/quality would be less than significant, and the proposed project would not contribute to cumulative long-term visual impacts.

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

LIGHT AND GLARE

AES-6 FUTURE DEVELOPMENT WITHIN THE GENERAL PLAN PLANNING AREA, COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS, COULD CREATE A NEW SOURCE OF LIGHT AND/OR GLARE, WHICH COULD AFFECT DAYTIME AND/OR NIGHTTIME VIEWS IN THE AREA.

Impact Analysis: Implementation of the proposed project could result in short-term lighting impacts until the evening hours. These impacts would be short-term and would cease upon completion of construction. Thus, an overall cumulatively considerable impact would not result and the proposed project would not contribute to cumulative nighttime lighting impact within the project area.

As development occurs in the project area and at the project site, new light sources may include new street lights, security lights, and interior lights, which may create light spillover and glare impacts on surrounding land uses in the absence of mitigation. However, future projects would be required to comply with the City's standards and regulations pertaining to lighting. Project Applicant(s) at the project site would also be required to comply with the recommended Mitigation Measure AES-2 requiring the preparation and submittal of an Outdoor Lighting Plan that illustrates that all exterior lighting does not spill over onto the adjacent uses on a project-by-project basis. Compliance with the Mitigation Measure AES-2 would ensure that long-term (operational) light and glare impacts would be reduced to less than significant levels and the project would not cumulatively contribute to significant impacts from the creation of new lighting in the general area.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure AES-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.3.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Aesthetic/light and glare impacts associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies and recommended mitigation measures. No significant unavoidable impacts to aesthetics/light and glare would occur as a result of project implementation.

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Section 5.4
Transportation and Traffic

5.4 TRANSPORTATION AND TRAFFIC

The purpose of this section is to evaluate implementation of the proposed project with respect to traffic and circulation. The traffic analysis is based upon the assumption that all sites with the opportunity for development would be developed to their maximum identified potential based upon the proposed land use designations over the next 25 years (2040) and baseline Circulation Element for the study area. This section is based upon the *McFarland General Plan Amendment Traffic Impact Analysis* (Traffic Impact Analysis) prepared by Michael Baker International, dated August 26,2015; refer to Appendix B, *Traffic Impact Analysis*.

The following three analysis scenarios are addressed below:

- Existing Conditions;
- Forecast Year 2040 Without Project Conditions; and
- Forecast Year 2040 With Project Conditions.

5.4.1 EXISTING SETTING

STUDY AREA

Study Intersections

In coordination with City staff, the following 26 intersections have been identified for analysis in this study:

1. Browning Road/Sherwood Avenue;
2. Bowman Road/Sherwood Avenue;
3. Driver Road/Sherwood Avenue;
4. Mast Avenue/Taylor Avenue;
5. Driver Road/Taylor Avenue;
6. Garzoli Avenue/Hanawalt Avenue;
7. Mast Avenue/Hanawalt Avenue;
8. Bowman Road/Hanawalt Avenue;
9. Driver Road/Hanawalt Avenue;
10. Garzoli Avenue/Whisler Road;
11. Mast Avenue/Whisler Road;
12. Bowman Road/Whisler Road;
13. Driver Road/Whisler Road;
14. Browning Road/Cliff Avenue (future intersection);
15. Browning Road/Taylor Avenue (future intersection);
16. Frontage Road/Hanawalt Avenue (future intersection);
17. Browning Road/Hanawalt Avenue (future intersection);
18. Browning Road/Nill Avenue (future intersection);
19. Commercial Access/Whisler Road (future intersection);
20. Browning Road/Whisler Road (future intersection);
21. SR-99 Northbound Ramps/1st Street;
22. 1st Street/Sherwood Avenue/SR-99 Southbound Ramps;
23. SR-99 Northbound Ramps/Whisler Road;
24. SR-99 Southbound Ramps/Whisler Road;

25. SR-99 Northbound Ramps/Hanawalt Avenue (future intersection); and
26. SR-99 Southbound Ramps/Hanawalt Avenue (future intersection).

Roadways

The characteristics of the roadway system in the vicinity of the project site are described below:

- *State Route 99 (SR-99)* provides regional access for the City of McFarland as a six-lane freeway facility, traversing the San Joaquin Valley in a north-south orientation. SR-99 originates at the Interstate 5 interchange approximately 19 miles south of the City of Bakersfield and continues north to its terminus at the interchange with State Route 36 (SR-36) near Red Bluff.

- *Garzoli Avenue* is a two-lane undivided roadway trending in a north-south direction. The posted speed limit is 25 miles per hour on Garzoli Avenue in the project vicinity; on-street parking is permitted.

- *Mast Avenue* is a two-lane undivided roadway trending in a north-south direction. The posted speed limit is 25 miles per hour on Mast Avenue in the project vicinity; on-street parking is permitted.

- *Browning Road* is a two-lane undivided roadway trending in a north-south direction and currently terminates at Taylor Avenue. There is no posted speed limit on Browning Road in the project vicinity; on-street parking is permitted.

- *Bowman Road* is an unpaved roadway trending in a north-south direction generally providing access to agricultural fields. There is no posted speed limit on Bowman Road in the project vicinity, except south of Whisler Road where the posted speed limit is 35 miles per hour; on-street parking is permitted.

- *Driver Road* is a two-lane undivided roadway trending in a north-south direction. There is no posted speed limit on Driver Road in the project vicinity; on-street parking is permitted.

- *Sherwood Avenue* is a two-lane undivided roadway trending in an east-west direction and provides access to SR-99. The speed limit is 25 miles per hour on Sherwood Avenue in the project vicinity; on-street parking is permitted.

- *Taylor Avenue* is a two-lane undivided roadway trending in an east-west direction and currently bisected by SR-99. The posted speed limit is 25 mile per hour on Taylor Avenue in the project vicinity; on-street parking is permitted.

- *Hanawalt Avenue* is a two-lane undivided roadway trending in an east-west direction and currently bisected by SR-99. There is no posted speed limit on Hanawalt Avenue in the project vicinity; on-street parking is permitted.

- *Whisler Road* is a two-lane undivided roadway trending in an east-west direction and provides access to SR-99. There is no posted speed limit on Whisler Road in the project vicinity; on-street parking is permitted.

ANALYSIS METHODOLOGY

Existing Conditions

To determine existing operation of the study intersections, a.m. peak period and p.m. peak period traffic movement counts were collected in April 2015 during typical weekday conditions. The a.m. peak period intersection counts were collected from 7:00 a.m. to 9:00 a.m.; the p.m. peak period intersection counts were collected from 4:00 p.m. to 6:00 p.m. The traffic volumes used in this analysis were taken from the highest hour within the two-hour peak period counted. Additionally, 24-hour daily traffic counts were collected at key roadway segments in the project vicinity. Detailed traffic count data sheets are contained in Appendix A of the Traffic Impact Analysis.

FORECAST PROJECT TRIP GENERATION

Forecast traffic volumes associated with buildout of the proposed project were developed by updating the regional travel demand model maintained by Kern Council of Governments (Kern COG). Exhibit 7 of the Traffic Impact Analysis, shows the proposed project land use map disaggregated into 22 traffic analysis zones as analyzed in the Kern COG travel demand model; detailed proposed project land use data is contained in Appendix C of the Traffic Impact Analysis.

FORECAST YEAR 2040 TRAFFIC GROWTH

Kern COG Regional Travel Demand Model

Kern Council of Governments (Kern COG) maintains a travel demand forecast model for the Kern County region. The model is based on input variables such as population, households, employment, school enrollment, income, traffic counts, traffic speeds, intersection configuration, and planned roadway networks from a variety of sources such as locally approved General Plan land use entitlements, local planning department input, and state and federal data sources. The model forecasts the demand for future transportation infrastructure by prediction of future traffic patterns based on the input variables. The travel demand model forecast year is 2040.

As part of the *Traffic Engineering Performance Assessment (TEPA) Draft Report for the State Route 99 (SR-99)/Hanawalt Avenue Interchange PSR/PDS in McFarland, CA,* (Fehr & Peers, June 2015) ["*SR-99/Hanawalt Interchange Study*"], the Kern COG travel demand model was updated to include additional traffic analysis zones, corresponding socioeconomic data, and the future roadway network based on the proposed project land use map and City's General Plan Circulation Element. The Kern COG travel demand model update for the *SR-99/Hanawalt Interchange Study* included future SR-99 overcrossings at Taylor Avenue, Hanawalt Avenue, and Nill Avenue. Kern COG travel demand model data provided by Kern COG staff is contained in Appendix D of the Traffic Impact Analysis.

Forecast Year 2040 Without Project

Forecast Year 2040 Without Project conditions represent buildout of the City in accordance with the currently adopted General Plan land use designations and roadway network. This traffic analysis scenario assumes the City boundaries would not be expanded southerly to incorporate the proposed land use plan area and that existing land uses and roadways south of the existing

City boundaries would generally remain unchanged. Accordingly, the base Kern COG travel demand model is based on these conditions and does not contain a detailed breakdown of traffic analysis zones and the roadway network for the project study area south of Sherwood Avenue. Therefore, Forecast Year 2040 Without Project conditions traffic volumes were derived by applying a growth factor to existing traffic volumes based on the average growth between the Kern COG travel demand model 2040 forecast year conditions and 2008 base year conditions for study roadways in the vicinity of Sherwood Avenue. The growth factor was determined to be 1.28, or approximately 0.78-percent per year.

Forecast Year 2040 With Project

Forecast Year 2040 With Project conditions represent buildout in accordance with the proposed land use amendment and future SR-99 overcrossings at Taylor Avenue, Hanawalt Avenue, and Nill Avenue. In accordance with the proposed land use map and General Plan Circulation Element roadway network, the following roadway improvements are assumed to be constructed in conjunction with buildout of the proposed project land use map as the baseline Circulation Element roadway network:

- *Garzoli Avenue*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from Taylor Avenue to Whisler Road.
- *Mast Avenue*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Taylor Avenue to Whisler Road.
- *Frontage Road*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Taylor Avenue to Nill Avenue.
- *Browning Road*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Whisler Road.
- *Browman Road*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Sherwood Avenue to Whisler Road;
- *Driver Road*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Whisler Road.
- *Sherwood Avenue*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from west of SR-99 to Driver Road.
- *Cliff Avenue*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Browning Road to Driver Road.
- *Taylor Avenue*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Garzoli Avenue to Driver Road, including a new overcrossing at SR-99.
- *Hanawalt Avenue*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from Garzoli Avenue to Driver Road, including a new overcrossing at SR-99.

- *Nill Avenue*. Constructed at its ultimate cross-section width as a two-lane divided collector roadway from Garzoli Avenue to Driver Road, including an overcrossing at SR-99.

- *Whisler Road*. Constructed at its ultimate cross-section width as a four-lane divided arterial roadway from Garzoli Avenue to Driver Road.

Kern COG transportation modeling staff provided raw a.m. peak hour and p.m. peak hour turning movement volumes for the study intersections based on the updated Kern COG travel demand model utilized for *SR-99/Hanawalt Interchange Study*. The raw study intersection volumes were then reviewed and refined for reasonableness based on peak hour to daily relationships, a.m. and p.m. peak hour turning movement mirroring, and flow conservation. Detailed refinement worksheets are contained in Appendix E of the Traffic Impact Analysis.

INTERSECTION LEVEL OF SERVICE METHODOLOGY

Level of service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The Highway Capacity Manual (HCM) analysis methodology is utilized to determine the operating LOS of the study intersections.

The *2000 HCM* analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding ranges of stopped delay experienced per vehicle for signalized and unsignalized intersections shown in Table 5.4-1, *Intersection LOS and Delay Ranges*. HCM analysis methodology is utilized in this study for the study intersections.

Table 5.4-1
Intersection LOS and Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Notes: LOS = level of service.
Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, August 26, 2015.

LOS is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

ROADWAY SEGMENT ANALYSIS METHODOLOGY

Roadway link volume-to-capacity (V/C) ratios are determined utilizing the capacities summarized in Table 5.4-2, *Roadway Segment Capacity*. Roadway facility types are based on the City's Circulation Element.

Table 5.4-2
Roadway Segment Capacity

Facility Type	Number of Lanes	Capacity
Arterial (Divided)	4	37,500
Collector (Divided)	2	18,800
Collector (Undivided)	2	12,000

Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, August 26, 2015.

Utilizing the roadway segment capacity ranges shown in Table 5.4-3, *Roadway Segment V/C and LOS Ranges*, the roadway segment operation is described using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding V/C ratios shown in Table 5.4-3.

Table 5.4-3
Roadway Segment V/C and LOS Ranges

LOS	V/C Ratio
A	< 0.60
B	> 0.60 < 0.70
C	> 0.70 < 0.80
D	> 0.80 < 0.90
E	> 0.90 < 1.00
F	> 1.00

Notes: LOS = level of service; V/C = volume to capacity ratio.

Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, August 26, 2015.

STATE HIGHWAY ANALYSIS METHODOLOGY

California Department of Transportation (Caltrans) advocates use of HCM methodologies to analyze the operation of intersections and freeway segments, and ramps/ramp junctions.

PERFORMANCE CRITERIA

City of McFarland

The City of McFarland has established a roadway performance target of LOS D or better during the peak hours. For purposes of this analysis, study intersection and roadway segment operation of LOS E or F are considered deficient.

State Highway Performance Criteria

The *SR-99/Hanawalt Interchange Study* used a LOS standard of LOS D or better for all State Highway facilities based on previous TEPAs completed for Caltrans. For consistency, this performance criteria is used for this analysis.

EXISTING TRAFFIC CONDITIONS

Existing Intersection Levels of Service

Table 5.4-4, *Existing Conditions Study Intersection LOS*, summarizes existing conditions a.m. and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B of the Traffic Impact Analysis. As shown in Table 5.4-4, the study intersections are currently operating at an acceptable LOS based on the City's established performance criteria.

Table 5.4-4
Existing Conditions Study Intersection LOS

Study Intersection		Intersection Type[1]	Lane Geometry (Left-Thru-Right)[2]				Existing Conditions Delay – LOS[3]	
			NB	SB	EB	WB	AM Peak	PM Peak
1	Browning Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.2 – A	11.6 – B
2	Bowman Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	0.0 – A	9..2 – A
3	Driver Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.4 – A	9.8 – A
4	Mast Avenue/Taylor Avenue	AWS	0-1-d	0-1-d	0-1-0	1-1-0	8.3 – A	8.5 – A
5	Driver Road/Taylor Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.8 – A	8.9 – A
6	Garzoli Avenue/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.8 – A	9.1 – A
7	Mast Avenue/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	9.1 – A	9.3 – A
8	Bowman Road/Hanawalt Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	8.5 – A	9.0 – A
9	Driver Road/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.7 – A	8.9 – A
10	Garzoli Avenue/Whisler Road	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.2 – A	9.7 – B
11	Mast Avenue/Whisler Road	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.3 – A	10.6 – B
12	Bowman Road/Whisler Road	CSS: n	0-1-0	0-0-0	0-1-0	0-1-0	8.8 – A	8.9 – A
13	Driver Road/Whisler Road	CSS: e	0-1-0	0-1-0	0-1-0	0-0-0	8.8 – A	9.1 – A

Notes:
1. AWS = All-Way Stop; CSS = Cross-Street Stop; n = Northbound Stop; s = Southbound Stop; e = Eastbound stop; w = Westbound stop
2. X-X-X = Left Turn-Through Right Turn Lanes; d = Defacto Right Turn Lane
3. Highway Capacity Manual (HCM) Analysis Method, average delay (sec./veh.), LOS = level of service.

Existing Study Roadway Segment Levels of Service

Table 5.4-5, *Existing Conditions Study Roadway Segment LOS*, summarizes existing conditions LOS of the study roadway segments. As shown in Table 5.4-5, the study roadway segments are currently operating at an acceptable LOS based on the City-established performance criteria.

Table 5.4-5
Existing Conditions Study Roadway Segment LOS

Name		Segment	Existing Conditions				
			Existing Street Class[1]	Existing Roadway Capacity[2]	Existing Daily Traffic	Existing V/C Ratio[2]	Existing LOS[2]
1	Sherwood Avenue	West of SR-99/1st Street	2U	12,000	4,800	0.40	A
2	1st Street	North of Sherwood Avenue	2U	12,000	2,800	0.23	A
3	1st Street	Sherwood Avenue to SR-99	2U	12,000	4,200	0.35	A
4	Sherwood Avenue	SR-99 To Browning Road	2U	12,000	4,600	0.38	A
5	Sherwood Avenue	Browning Road to Bowman Road	2U	12,000	3,612	0.30	A
6	Sherwood Avenue	Bowman Road to Driver Road	2U	12,000	1,400	0.12	A
7	Sherwood Avenue	East of Driver Road	2U	12,000	1,400	0.12	A
8	Cliff Avenue	West of Browning Road	-	N/A	-	N/A	N/A
9	Cliff Avenue	East of Browning Road	-	N/A	-	N/A	N/A
10	Taylor Avenue	Garzoli Avenue to Mast Avenue	2U	12,000	1,500	0.13	A
11	Taylor Avenue	Mast Avenue to Frontage Road	2U	12,000	884	0.07	A
12	Taylor Avenue	Frontage Road to Browning Road	-	N/A	-	N/A	N/A
13	Taylor Avenue	Browning Road to Bowman Road	-	N/A	-	N/A	N/A
14	Taylor Avenue	Bowman Road to Driver Road	2U	12,000	56	0.00	A
15	Taylor Avenue	East of Driver Road	-	N/A	-	N/A	N/A
16	Hanawalt Avenue	West of Garzoli Avenue	2U	12,000	100	0.01	A
17	Hanawalt Avenue	Garzoli Avenue to Mast Avenue	2U	12,000	60	0.01	A
18	Hanawalt Avenue	Mast Avenue to Frontage Road	2U	12,000	8	0.00	A
19	Hanawalt Avenue	Frontage Road to SR-99	-	N/A	-	N/A	N/A
20	Hanawalt Avenue	West of SR-99	-	N/A	-	N/A	N/A
21	Hanawalt Avenue	SR-99 to Browning Road	-	N/A	-	N/A	N/A
22	Hanawalt Avenue	Browning Road to Bowman Road	2U	12,000	10	0.00	A
23	Hanawalt Avenue	Bowman Road to Driver Road	2U	12,000	10	0.00	A
24	Hanawalt Avenue	East of Driver Road	2U	12,000	300	0.03	A
25	Nill Avenue	West of Browning Road	-	N/A	-	N/A	N/A
26	Nill Avenue	East of Browning Road	-	N/A	-	N/A	N/A
27	Whisler Road	West of Garzoli Avenue	2U	12,000	1,300	0.11	A
28	Whisler Road	Garzoli Avenue to Mast Avenue	2U	12,000	1,300	0.11	A
29	Whisler Road	Mast Avenue to Commercial Access	2U	12,000	2,275	0.19	A
30	Whisler Road	Commercial Access to SR-99	2U	12,000	2,275	0.19	A
31	Whisler Road	West of SR-99	2U	12,000	1,700	0.14	A
32	Whisler Road	SR-99 to Browning Road	2U	12,000	1,142	0.10	A
33	Whisler Road	Browning Road to Bowman Road	2U	12,000	1,142	0.10	A
34	Whisler Road	Bowman Road to Driver Road	2U	12,000	1,142	0.10	A

Table 5.4-5 [continued]
Existing Conditions Study Roadway Segment LOS

Name		Segment	Existing Conditions				
			Existing Street Class[1]	Existing Roadway Capacity[2]	Existing Daily Traffic	Existing V/C Ratio[2]	Existing LOS[2]
35	Garzoli Avenue	Taylor Avenue to Hanawalt Avenue	2U	12,000	600	0.05	A
36	Garzoli Avenue	Hanawalt Avenue to Whisler Road	2U	12,000	579	0.05	A
37	Garzoli Avenue	South of Whisler Road	2U	12,000	50	0.00	A
38	Mast Avenue	Sherwood Avenue to Taylor Road	2U	12,000	3,500	0.29	A
39	Mast Avenue	Taylor Avenue to Hanawalt Avenue	2U	12,000	2,945	0.25	A
40	Mast Avenue	Hanawalt Avenue to Whisler Road	2U	12,000	1,215	0.10	A
41	Mast Avenue	South of Whisler Road	2U	12,000	30	0.00	A
42	Commercial Access	North of Whisler Road	-	N/A	-	N/A	N/A
43	Frontage Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A
44	Frontage Road	Hanawalt Avenue to Nill Avenue	-	N/A	-	N/A	N/A
45	Browning Road	North of Sherwood Avenue	2U	12,000	1,700	0.14	A
46	Browning Road	Sherwood Avenue to Cliff Avenue	2U	12,000	61	0.01	A
47	Browning Road	Cliff Avenue to Taylor Avenue	2U	12,000	61	0.01	A
48	Browning Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A
49	Browning Road	Hanawalt Avenue to Nill Avenue	-	N/A	-	N/A	N/A
50	Browning Road	Nill Avenue to Whisler Road	-	N/A	-	N/A	N/A
51	Browning Road	South of Whisler Road	-	N/A	-	N/A	N/A
52	Bowman Road	North of Sherwood Avenue	2U	12,000	10	0.00	A
53	Bowman Road	Sherwood Avenue to Taylor Road		N/A		N/A	N/A
54	Bowman Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A
55	Bowman Road	Hanawalt Avenue to Whisler Road	-	N/A	-	N/A	N/A
56	Bowman Road	South of Whisler Road	2U	12,000	100	0.01	A
57	Driver Road	North of Sherwood Avenue	2U	12,000	1,100	0.09	A
58	Driver Road	Sherwood Avenue to Taylor Road	2U	12,000	981	0.08	A
59	Driver Road	Taylor Avenue to Hanawalt Avenue	2U	12,000	1,000	0.08	A
60	Driver Road	Hanawalt Avenue to Whisler Road	2U	12,000	1,014	0.08	A
61	Driver Road	South of Whisler Road	2U	12,000	800	0.07	A

Notes:
1. Roadway segment capacity: 2U = 12,000 vehicles per day (vpd); 2D = 18,800 vpd; 4D = 37,500 vpd.
2. V/C = volume to capacity ratio; LOS = level of service; N/A = not applicable.

Existing State Highway Study Intersection Levels of Service

Table 5.4-6, *Existing Conditions State Highway Study Intersection LOS*, summarizes a.m. and p.m. peak hour LOS of the State Highway study intersections for existing conditions. As shown in Table 5.4-6, the study intersections are currently operating within acceptable State Highway established performance criteria of LOS D or better for existing conditions.

Table 5.4-6
Existing Conditions State Highway Study Intersection LOS

Study Intersection		Existing Conditions[1] Delay – LOS	
		AM Peak Delay[2] LOS	PM Peak Delay[2] LOS
21	SR-99 NB Ramps/1st Street	10.0 – A	11.0 – B
22	1st Street/Sherwood Avenue/SR-99 SB Ramps	8.0 – A	10.0 – B
23	SR-99 NB Ramps/Whisler Road	9.0 – A	9.0 – B
24	SR-99 SB Ramps/Whisler Road	9.0 – A	9.0 – A
25	SR-99 NB Ramps/Hanawalt Avenue	N/A	N/A
26	SR-99 SB Ramps/Hanawalt Avenue	N/A	N/A

Notes:
1. Traffic Engineering Performance Assessment (TEPA) Draft Report for the State Route 99 (SR-99)/Hanawalt Avenue Interchange PSR/PDS in McFarland, CA, (Fehr & Peers, June 2015); refer to Appendix G of Appendix B.
2. Highway Capacity Manual (HCM) Analysis Method, average delay.

EXISTING TRANSIT SERVICE

The transit services that are available in the project's vicinity include the McFarland City Transit Bus and Kern Transit. The McFarland Transit Division is responsible for the management and operations of the City's transit service, the McFarland City Transit Bus.[1] The McFarland City Transit service runs weekdays, Monday through Friday from 8:00 a.m. to 4:15 p.m. The McFarland City Transit operates under the Dial-A-Ride Title VI Program, which establishes guidelines to effectively monitor and ensure that the City transit services are non-exclusive and in compliance with Federal Transit Administration (FTA) Title VI requirements.[2] In addition, Kern Transit provides passenger bus services throughout Kern County. The Kern Transit Fixed Route 110 services Delano, McFarland, Wasco, Shafter, and Bakersfield. Within McFarland, the Kern Transit Fixed Route 110 travels along SR-99 and the bus stop is located at the McFarland Community Center on Sherwood Avenue.[3]

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

According to the City's Circulation Element, bicycle facilities are limited and bicycle traffic currently comprises a small percentage of the overall traffic in the City. However, it is anticipated that bicycle travel would grow as population and employment increase in McFarland. According to the City's Circulation Element, bicycle travel would be designated with dedicated bicycle lanes (class II), bicycle routes (class III) that consist of the bicyclist sharing the travel

[1] City of McFarland, *Transportation,* http://www.mcfarlandcity.org/269/Transportation, accessed October 24, 2015.
[2] City of McFarland, *City of McFarland – Dial-A-Ride Title VI Program,* 2014.
[3] Kern Transit, *North Kern Transit Guide,* 2015.

lanes with motorized vehicles mostly on signed residential streets, and bicycle paths (class I) that would be dedicated in the future; refer to Figure CBL of the Circulation Element that shows the separate classes. The Circulation Element notes that bicycle riding and walking are good means of transportation in the City, due to its size. However, there are only four overcrossings that allow access across SR-99.

5.4.2 REGULATORY SETTING

STATE

California Department of Transportation

Caltrans publishes a document entitled Guide for the Preparation of Traffic Impact Studies, which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices.

The Guide defines when traffic studies should be conducted to address impacts to state facilities, but does not define quantitative impact standards. The Guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities, and that the agency strives to maintain a LOS value of C on its facilities. However, the Guide states that the appropriate target LOS varies by facility and congestion level, and is defined differently by Caltrans depending on the analyzed facility.

REGIONAL

Kern Council of Governments

2014 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

The Kern Council of Governments (Kern COG) is a federally designated Metropolitan Planning Organization (MPO) and a state designated Regional Transportation Planning Agency (RTPA). As a regional transportation agency, Kern COG prepared the 2014 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to examine long-range transportation issues, opportunities, and needs for Kern County. The RTP/SCS is a 26-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. The RTP/SCS includes a policy element that is shaped by goals, policies, and performance indicators, a description of planning assumptions for regional growth and future needs for travel and goods movement, a SCS that identifies planning strategies, and illustrative development patterns that would reduce greenhouse gas (GHG) emissions, and a plan of action for the region to pursue to meet identified transportation needs. The RTP was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, state, and federal agencies.

CONGESTION MANAGEMENT PROGRAM

Pursuant to Proposition 111, every county in California is required to develop a Congestion Management Program (CMP) that examines the relationships between land use, transportation, and air quality. The CMP addresses the impact of local growth on the regional transportation

system. Proposition 111 also established a nine percent per gallon gas tax, staged over a five year period, for the purpose of funding transportation-related improvements statewide. In order to be eligible for the revenues associated with Proposition 111, the CMP legislation (originally AB 471, amended by AB 1791) requires that a CMP be developed, adopted, and updated biennially for every county that includes an urbanized area and shall include every city and the county government within that county. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the county's jurisdictions.

Kern COG is the designated Congestion Management Agency for the Kern County region. The CMP is designed to ensure that a balanced transportation system is developed, relating population and traffic growth, land use decisions, performance standards, and air quality improvements. The purpose of the CMP is to (1) monitor the performance of the transportation system; (2) develop programs to address near-term and long-term congestion; and (3) better integrate transportation and land use planning. The goal of the CMP is to identify a regional network and work toward maintenance of LOS E or better on the highways and roads that are identified in this network.

The Kern COG CMP network (also referred to as congestion management corridors), which includes a system of roadways that will be monitored in relation to established LOS standards includes several highways and principal arterials, including SR-99. No other highways in McFarland are included in the CMP system.

CITY OF MCFARLAND

McFarland General Plan

The McFarland Circulation Element assures the provision of a City street system that is correlated to and is sufficient to safely and efficiently convey traffic associated with the City of McFarland Future Land Use Map and pattern of development. The Circulation Element accounts for regional traffic and transportation infrastructure and intends to address and ensure the integrity of the community's physical, social, and economic environment. The key goal of the Circulation Element is to plan for, create, and maintain an efficient, cost effective, safe, and coordinated multi-modal circulation system, serving the needs of a variety of users. The Circulation Element provides objectives and policies to achieve this goal.

City of McFarland Municipal Code

McFarland Municipal Code, Chapter 16.48, Development Impact Fees, requires the payment of development impact fees upon building permit issuance. The revenues raised by the development impact fees are used to pay for design and construction of designated public facilities. Improvements associated with public facilities are generally scheduled on an annual basis according to need and available resources, range from road maintenance or construction, to the renovation of municipal buildings, recreation centers and park facilities, to water main and sewer repair.

5.4.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

DEFINITION OF A SIGNIFICANT IMPACT

Significant Traffic Impact Criteria

Traffic impacts are identified if a project would result in a significant adverse change in traffic conditions on an analyzed facility. A significant impact is typically identified if traffic generated by a project would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection or roadway segment is already operating below the poorest acceptable level and project traffic would substantially worsen the condition, thereby causing a further decline below the threshold.

CITY OF MCFARLAND

To determine whether the proposed project results in a significant impact, and thus requires mitigation, the following threshold of significance will be utilized:

- A project-related impact is considered significant when a study intersection or roadway segment is forecast to operate at a deficient level of service (LOS E or F) with implementation of the proposed project.

STATE HIGHWAY

Based on the established performance criteria of LOS D or better, the following threshold of significance is used in this analysis:

- A project-related impact is considered significant when a State Highway facility is forecast to operate at a deficient level of service (LOS E or F) with implementation of the proposed project.

SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation systems, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit; refer to Impact Statement TRA-1.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways; refer to Impact Statement TRA-2.

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); refer to Impact Statement TRA-3.

- Result in inadequate emergency access; refer to Section 5.14, *Hazards and Hazardous Materials.*

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities; refer to Impact Statement TRA-4.

Based on these standards/criteria, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards, or mitigation, it is categorized as a "significant and unavoidable impact."

5.4.4 IMPACTS AND MITIGATION MEASURES

FORECAST YEAR 2040 TRAFFIC OPERATIONS

TRA-1 PROJECT IMPLEMENTATION COULD RESULT IN AN INCREASE IN TRAFFIC VOLUMES FOR THE PLANNING HORIZON YEAR OF 2040, WHICH COULD IMPACT THE CAPACITIES OF THE INTERSECTIONS OR ROADWAYS WITHIN THE PLANNING AREA.

Impact Analysis: The project proposes a General Plan Amendment (GPA) to amend the Land Use Element to add two new land use designations, establish new policies and objectives associated with the new land use designations and other development within the planning area, and amend the Land Use Map to assign land uses to specific areas within the sphere of influence (SOI) and change existing land use designations for several properties within the City boundaries. Although annexation of land within the SOI and site-specific development is not currently proposed, the traffic analysis assumes all sites with the opportunity for development are developed to their identified potential based upon the proposed land use designations.

PROJECT TRIP GENERATION

Forecast traffic volumes associated with buildout of the proposed project were developed by updating the regional travel demand model maintained by Kern COG.

Table 5.4-7, *Proposed Project Trip Generation*, summarizes the land use data used for the proposed project land use map; detailed proposed project land use data is contained in Appendix C of the Traffic Impact Analysis. Table 5.4-7 shows the forecast project trip generation based on the trip ends by project traffic analysis zone obtained from the Kern COG Travel Demand Model. As shown in Table 5.4-7, the proposed project land use map is forecast to generate approximately 172,022 daily trips.

Table 5.4-7
Proposed Project Trip Generation

TAZ[1]	Land Use												Daily Trips Generated
	Single-Family Residential	Multi-Family Residential	Office		Commercial/Retail		Food/Restaurant		Warehouse		Education		
	DU[1]	DU[1]	AC[1]	Emp[1]	AC[1]	Emp[1]	AC[1]	Emp[1]	AC[1]	Emp[1]	AC[1]	Emp[1]	
1626	0	182	32.7	1,068	15.0	327	5.0	109	0.0	0	0.0	0	6,637
1630	0	0	0.0	0	31.5	686	10.5	229	42.0	439	0.0	0	13,322
1631	234	702	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	4,968
1632	468	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2,907
1633	0	0	0.0	0	0.0	0	0.0	0	171.8	1,796	0.0	0	6,200
1634	0	0	0.0	0	0.0	0	0.0	0	156.0	1,631	0.0	0	5,631
1635	0	0	0.0	0	0.0	0	0.0	0	140.7	1,471	0.0	0	5,108
1636	0	0	0.0	0	0.0	0	0.0	0	156.0	1,631	0.0	0	5,652
1637	0	0	0.0	0	0.0	0	0.0	0	107.5	1,123	0.0	0	3,917
1638	0	0	0.0	0	0.0	0	0.0	0	156.0	1,631	0.0	0	5,666
1639	229	0	0.0	0	0.0	0	0.0	0	0.0	0	38.1	530	1,711
1640	165	0	7.2	236	21.6	471	1.8	157	0.0	0	0.0	0	10,210
1641	229	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	1,420
1642	165	0	7.2	236	21.6	471	1.8	157	0.0	0	0.0	0	10,190
1643	345	337	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	3,810
1644	167	0	8.6	282	25.9	563	2.2	188	0.0	0	0.0	0	11,946
1645	457	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2,830
1646	167	0	11.5	376	34.5	751	2.9	250	0.0	0	0.0	0	15,436
1647	920	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	5,653
1648	83	0	15.8	516	47.4	1,032	3.9	344	0.0	0	0.0	0	20,084
1649	0	0	0.0	0	47.3	1,030	47.3	1,030	0.0	0	0.0	0	27,271
1650	0	0	0.0	0	0.0	0	0.0	0	39.9	417	0.0	0	1,453
Total	***3,629***	***1,220***	***83.0***	***2,713***	***244.8***	***5,332***	***75.4***	***2,464***	***969.9***	***10,140***	***38.1***	***530***	***172,022***

Notes:
1. TAZ = Traffic Analysis Zone; DU = dwelling units; AC = acres; Emp = employees

Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, August 26, 2015.
It should be noted that for purposes of the traffic impact analysis, the non-residential land uses were more specifically delineated for consistency with the regional travel demand model maintained by Kern COG.

FORECAST YEAR 2040 WITHOUT PROJECT CONDITIONS

Intersection Operations

Table 5.4-8, *Forecast Year 2040 Without Project Conditions Study Intersection LOS*, summarizes a.m. and p.m. peak hour LOS of the study intersections for forecast year 2040 without project conditions. As shown in Table 5.4-8, the study intersections are forecast to operate at an acceptable LOS (LOS D or better) based on City performance criteria for forecast year 2040 without project conditions.

Table 5.4-8
Forecast Year 2040 Without Project Conditions Study Intersection LOS

Study Intersection		Intersection Type[1]	Lane Geometry (Left-Thru-Right)[2]				Future Without Project Conditions Delay – LOS	
			NB	SB	EB	WB	AM Peak Hour[3]	PM Peak Hour[3]
1	Browning Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.5 – A	13.3 – B
2	Bowman Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	0.0 – A	9.4 – A
3	Driver Road/Sherwood Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.5 – A	10.1 – B
4	Mast Avenue/Taylor Avenue	AWS	0-1-d	0-1-d	0-1-0	1-1-0	8.8 – A	9.1 – A
5	Driver Road/Taylor Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.9 – A	9.0 – A
6	Garzoli Avenue/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.9 – A	9.3 – A
7	Mast Avenue/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	9.3 – A	9.5 – A
8	Bowman Road/Hanawalt Avenue	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	8.5 – A	9.0 – A
9	Driver Road/Hanawalt Avenue	CSS: ew	0-1-0	0-1-0	0-1-0	0-1-0	8.8 – A	9.0 – A
10	Garzoli Avenue/Whisler Road	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.4 – A	10.1 – B
11	Mast Avenue/Whisler Road	CSS: ns	0-1-0	0-1-0	0-1-0	0-1-0	9.6 – A	11.1 – B
12	Bowman Road/Whisler Road	CSS: n	0-1-0	0-0-0	0-1-0	0-1-0	8.9 – A	9.1 – A
13	Driver Road/Whisler Road	CSS: e	0-1-0	0-1-0	0-1-0	0-0-0	8.9 – A	9.2 – A

Notes:
1. AWS = All-Way Stop; CSS = Cross-Street Stop; n = Northbound Stop; s = Southbound Stop; e = Eastbound stop; w = Westbound stop
2. X-X-X = Left Turn-Through Right Turn Lanes; d = Defacto Right Turn Lane.
3. Highway Capacity Manual (HCM) Analysis Method, average delay (sec./veh.), LOS = level of service.

Roadway Segment Operations

Table 5.4-9, *Forecast Year 2040 Without Project Roadway Segment Daily Capacity Analysis Summary*, summarizes the roadway segment operations for forecast year 2040 without project conditions. As shown in Table 5.4-9, the study roadway segments are forecast to operate within acceptable City-established performance criteria of LOS D or better during forecast year 2040 without project conditions.

Table 5.4-9
Forecast Year 2040 Without Project Roadway Segment Daily Capacity Analysis Summary

Name		Segment	Forecast 2040 Year Without Project[1]		
			Daily Traffic	V/C Ratio	LOS
1	Sherwood Avenue	West of SR-99/1st Street	6,100	0.51	A
2	1st Street	North of Sherwood Avenue	3,600	0.30	A
3	1st Street	Sherwood Avenue to SR-99	5,400	0.45	A
4	Sherwood Avenue	SR-99 To Browning Road	5,900	0.49	A
5	Sherwood Avenue	Browning Road to Bowman Road	4,600	0.38	A
6	Sherwood Avenue	Bowman Road to Driver Road	1,800	0.15	A
7	Sherwood Avenue	East of Driver Road	1,800	0.15	A
8	Cliff Avenue	West of Browning Road	-	N/A	N/A
9	Cliff Avenue	East of Browning Road	-	N/A	N/A
10	Taylor Avenue	Garzoli Avenue to Mast Avenue	1,900	0.16	A
11	Taylor Avenue	Mast Avenue to Frontage Road	1,100	0.09	A
12	Taylor Avenue	Frontage Road to Browning Road	-	N/A	N/A
13	Taylor Avenue	Browning Road to Bowman Road	-	N/A	N/A
14	Taylor Avenue	Bowman Road to Driver Road	70	0.01	A
15	Taylor Avenue	East of Driver Road	-	N/A	N/A
16	Hanawalt Avenue	West of Garzoli Avenue	100	0.01	A
17	Hanawalt Avenue	Garzoli Avenue to Mast Avenue	80	0.01	A
18	Hanawalt Avenue	Mast Avenue to Frontage Road	10	0.00	A
19	Hanawalt Avenue	Frontage Road to SR-99	-	N/A	N/A
20	Hanawalt Avenue	West of SR-99	-	N/A	N/A
21	Hanawalt Avenue	SR-99 to Browning Road	-	N/A	N/A
22	Hanawalt Avenue	Browning Road to Bowman Road	10	0.00	A
23	Hanawalt Avenue	Bowman Road to Driver Road	10	0.00	A
24	Hanawalt Avenue	East of Driver Road	400	0.03	A
25	Nill Avenue	West of Browning Road	-	N/A	N/A
26	Nill Avenue	East of Browning Road	-	N/A	N/A
27	Whisler Road	West of Garzoli Avenue	1,700	0.14	A
28	Whisler Road	Garzoli Avenue to Mast Avenue	1,700	0.14	A
29	Whisler Road	Mast Avenue to Commercial Access	2,900	0.24	A
30	Whisler Road	Commercial Access to SR-99	2,900	0.24	A
31	Whisler Road	West of SR-99	2,200	0.18	A
32	Whisler Road	SR-99 to Browning Road	1,500	0.13	A
33	Whisler Road	Browning Road to Bowman Road	1,500	0.13	A
34	Whisler Road	Bowman Road to Driver Road	1,500	0.13	A
35	Garzoli Avenue	Taylor Avenue to Hanawalt Avenue	800	0.07	A
36	Garzoli Avenue	Hanawalt Avenue to Whisler Road	700	0.06	A
37	Garzoli Avenue	South of Whisler Road	60	0.01	A
38	Mast Avenue	Sherwood Avenue to Taylor Road	4,500	0.38	A
39	Mast Avenue	Taylor Avenue to Hanawalt Avenue	3,800	0.32	A

Table 5.4-9 [continued]
Forecast Year 2040 Without Project Roadway Segment Daily Capacity Analysis Summary

Name		Segment	Forecast 2040 Year Without Project[1]		
			Daily Traffic	V/C Ratio	LOS
40	Mast Avenue	Hanawalt Avenue to Whisler Road	1,600	0.13	A
41	Mast Avenue	South of Whisler Road	40	0.00	A
42	Commercial Access	North of Whisler Road	-	N/A	N/A
43	Frontage Road	Taylor Avenue to Hanawalt Avenue	-	N/A	N/A
44	Frontage Road	Hanawalt Avenue to Nill Avenue	-	N/A	N/A
45	Browning Road	North of Sherwood Avenue	2,200	0.18	A
46	Browning Road	Sherwood Avenue to Cliff Avenue	80	0.01	A
47	Browning Road	Cliff Avenue to Taylor Avenue	80	0.01	A
48	Browning Road	Taylor Avenue to Hanawalt Avenue	-	N/A	N/A
49	Browning Road	Hanawalt Avenue to Nill Avenue	-	N/A	N/A
50	Browning Road	Nill Avenue to Whisler Road	-	N/A	N/A
51	Browning Road	South of Whisler Road	-	N/A	N/A
52	Bowman Road	North of Sherwood Avenue	10	0.00	A
53	Bowman Road	Sherwood Avenue to Taylor Road	-	N/A	N/A
54	Bowman Road	Taylor Avenue to Hanawalt Avenue	-	N/A	N/A
55	Bowman Road	Hanawalt Avenue to Whisler Road	-	N/A	N/A
56	Bowman Road	South of Whisler Road	100	0.01	A
57	Driver Road	North of Sherwood Avenue	1,400	0.12	A
58	Driver Road	Sherwood Avenue to Taylor Road	1,300	0.11	A
59	Driver Road	Taylor Avenue to Hanawalt Avenue	1,300	0.11	A
60	Driver Road	Hanawalt Avenue to Whisler Road	1,300	0.11	A
61	Driver Road	South of Whisler Road	1,000	0.08	A

Notes:
1. V/C = volume to capacity ratio; LOS = level of service; N/A = not applicable.

FORECAST YEAR 2040 WITH PROJECT CONDITIONS

Intersection Operations

Exhibit 10 of the Traffic Impact Analysis shows forecast year 2040 with project conditions a.m. and p.m. peak hour traffic volumes at the study intersections.

Table 5.4-10, *Forecast Year 2040 With Project Conditions Study Intersection LOS*, summarizes a.m. and p.m. peak hour LOS of the study intersections for forecast year 2040 with project conditions. Exhibit 16 of the Traffic Impact Analysis shows the recommended future study intersection geometry and controls necessary to achieve the study intersection LOS shown in Table 5.4-10 for forecast year 2040 with project conditions.

As shown in Table 5.4-10, the study intersections are forecast to operate at an acceptable LOS (LOS D or better) for forecast year 2040 with project conditions. Therefore, the proposed project is forecast to result in no significant traffic impacts at the study intersections for forecast

year 2040 with project conditions with implementation of the recommended study intersection geometry and controls shown on Exhibit 16 of the Traffic Impact Analysis.

Table 5.4-10
Forecast Year 2040 With Project Conditions Study Intersection LOS

Study Intersection		Intersection Type[1]	Lane Geometry (Left-Thru-Right)[2]				Existing Conditions Delay – LOS	
			NB	SB	EB	WB	AM Peak Hour[3]	PM Peak Hour[3]
1	Browning Road/Sherwood Avenue	TS	1-2-0	1-2-0	2-2-0	1-2-0	18.1 – B	19.7 – B
2	Bowman Road/Sherwood Avenue	CSS: ns	1-1-0	1-1-0	1-2-0	1-2-0	10.4 – B	11.5 – B
3	Driver Road/Sherwood Avenue	CSS: ns	1-2-0	1-2-0	1-1-1	1-1-0	10.2 – B	11.4 – B
4	Mast Avenue/Taylor Avenue	TS	1-1-0	1-1-0	1-1-0	1-1-0	7.0 – A	9.5 – A
5	Driver Road/Taylor Avenue	CSS: ew	1-1-0	1-1-0	1-1-0	1-1-0	9.4 – A	9.7 – A
6	Garzoli Avenue/Hanawalt Avenue	CSS: ew	1-2-0	1-2-0	1-1-0	1-1-1	10.3 – B	13.6 – B
7	Mast Avenue/Hanawalt Avenue	TS	1-1-0	1-1-0	1-2-0	1-2-0	10.6 – B	13.3 – B
8	Bowman Road/Hanawalt Avenue	CSS: ns	1-1-0	1-1-0	1-2-0	1-2-0	11.7 – B	16.9 – C
9	Driver Road/Hanawalt Avenue	CSS: ew	1-2-0	1-2-0	1-1-1	1-1-0	9.3 – A	9.5 – A
10	Garzoli Avenue/Whisler Road	TS	1-1-0	1-1-1>	1-1-0	1-1-1	10.9 – B	12.3 – B
11	Mast Avenue/Whisler Road	CSS: ns	1-1-0	1-1-0	1-2-0	1-2-0	11.4 – B	13.4 – B
12	Bowman Road/Whisler Road	CSS: n	1-1-0	1-1-0	1-2-0	1-2-0	11.9 – B	12.0 – B
13	Driver Road/Whisler Road	CSS: e	1-1-0	0-1-1	1-0-1	0-0-0	8.9 – A	9.3 – A
14	Browning Road/Cliff Avenue	TS	1-2-0	1-2-0	1-1-0	1-1-0	6.7 – A	8.4 – A
15	Browning Road/Taylor Avenue	TS	1-2-0	1-2-0	1-1-0	1-1-0	9.3 – A	11.2 – B
16	Frontage Road/Hanawalt Avenue	TS	1-1-0	1-1-0	1-2-0	1-2-0	10.0 – B	10.4 – B
17	Browning Road/Hanawalt Avenue	TS	1-2-0	1-2-0	1-2-0	1-2-0	16.5 – B	19.8 – B
18	Browning Road/Nill Avenue	TS	1-2-0	1-2-0	1-1-0	1-1-0	10.7 – B	11.0 – B
19	Commercial Access/Whisler Road	TS	0-0-0	1.5-0.5-0	1-2-0	0-2-1>	10.8 – B	12.5 – B
20	Browning Road/Whisler Road	TS	1-1-0	1-1-1>	2-2-0	1-2-0	12.3 – B	15.4 – B

Notes:
1. TS = Traffic Signal; AWS = All-Way Stop; CS = Cross-Street Stop; n = Northbound Stop; s = Southbound Stop; e = Eastbound stop; w = Westbound stop
2. X-X-X = Left Turn-Through Right Turn Lanes; 0.5 = Shared Left-Thru Lane; d = Defacto Right Turn Lane; f = Free Right Turn Lane; > = Right Turn Overlap Phasing
3. Highway Capacity Manual (HCM) Analysis Method, average delay (sec./veh.), LOS = level of service.

FORECAST YEAR 2040 WITH PROJECT INTERSECTION TRAFFIC SIGNAL WARRANTS

The following study intersections have been evaluated for potential signalization based on the estimated ADT warrant in the California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition; detailed traffic signal warrant worksheets are contained in Appendix F of the Traffic Impact Analysis. The following 15 study intersections are forecast to warrant a traffic signal control for forecast year 2040 with project conditions:

- Intersection 1 – Browning Road/Sherwood Avenue;
- Intersection 4 – Mast Avenue/Taylor Avenue;

- Intersection 7 – Mast Avenue/Hanawalt Avenue;
- Intersection 10 – Garzoli Avenue/Whisler Road;
- Intersection 14 – Browning Road/Cliff Avenue;
- Intersection 15 – Browning Road/Taylor Avenue;
- Intersection 16 – Frontage Road/Hanawalt Avenue;
- Intersection 17 – Browning Road/Hanawalt Avenue;
- Intersection 18 – Browning Road/Nill Avenue;
- Intersection 19 – Commercial Access/Whisler Road;
- Intersection 20 – Browning Road/Whisler Road;
- Intersection 21 – SR-99 Northbound Ramps/1st Street;
- Intersection 22 – 1st Street/Sherwood Avenue/SR-99 Southbound Ramps;
- Intersection 23 – SR-99 Northbound Ramps/Whisler Road; and
- Intersection 24 – SR-99 Southbound Ramps/Whisler Road.

Recommended Improvements/Measures

Exhibit 18 of the Traffic Impact Analysis shows the recommended Circulation Element roadway network for the study area for the forecast year 2040 with project conditions.

The following describes study intersection improvements (over existing conditions) necessary to achieve the recommended intersection geometry and controls previously shown on Exhibit 16 of the Traffic Impact Analysis and maintain the City-established performance criteria of LOS D or better for forecast existing with project conditions:

INT #1 *Browning Road/Sherwood Avenue* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane and one northbound through lane;
c) Add one southbound left-turn lane and one southbound through lane;
d) Add two eastbound left-turn lanes and one eastbound through lane; and
e) Add one westbound left-turn lane and one westbound through lane.

INT #2 *Bowman Road/Sherwood Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add one southbound left-turn lane;
c) Add one eastbound left-turn lane and one eastbound through lane; and
d) Add one westbound left-turn lane and one westbound through lane.

INT #3 *Driver Road/Sherwood Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane and one northbound through lane;
b) Add one southbound left-turn lane one southbound through lane;
c) Add one eastbound left-turn lane and one eastbound right-turn lane; and
d) Add one westbound left-turn lane.

INT #4 *Mast Avenue/Taylor Avenue* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane;
c) Add one southbound left-turn lane; and
d) Add one eastbound left-turn lane.

INT #5 *Driver Road/Taylor Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add one southbound left-turn lane;
c) Add one eastbound left-turn lane; and
d) Add one westbound left-turn lane.

INT #6 *Garzoli Avenue/Hanawalt Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane and one northbound through lane;
b) Add one southbound left-turn lane and one southbound through lane;
c) Add one eastbound left-turn lane; and
d) Add one westbound left-turn lane and one westbound through lane.

INT #7 *Mast Avenue/Hanawalt Avenue* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane;
c) Add one southbound left-turn lane;
d) Add one eastbound left-turn lane and one eastbound through lane; and
e) Add one westbound left-turn lane and one westbound through lane.

INT #8 *Bowman Avenue/Hanawalt Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add one southbound left-turn lane;
c) Add one eastbound left-turn lane and one eastbound through lane; and
d) Add one westbound left-turn lane and one westbound through lane.

INT #9 *Driver Road/Hanawalt Avenue* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane and one northbound through lane;
b) Add one southbound left-turn lane and one southbound through lane;
c) Add one eastbound left-turn lane and one eastbound right-turn lane; and
d) Add one westbound left-turn lane.

INT #10 *Garzoli Avenue/Whisler Road* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane;
c) Add one southbound left-turn lane and one southbound right-turn lane with right-turn overlap phasing;
d) Add one eastbound left-turn lane; and
e) Add one westbound left-turn lane and one westbound right-turn lane.

INT #11 *Mast Avenue/Whisler Road* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add one southbound left-turn lane;
c) Add one eastbound left-turn lane and one eastbound through lane; and
d) Add one westbound left-turn lane and one westbound through lane.

INT #12 *Bowman Road/Whisler Road* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add a stop-controlled southbound approach consisting of one left-turn lane and one shared through/right-turn lane;
c) Add one eastbound left-turn lane and one eastbound through lane; and
d) Add one westbound left-turn lane and one westbound through lane.

INT #13 *Driver Road/Whisler Road* – Construct the following improvements at the existing intersection:

a) Add one northbound left-turn lane;
b) Add one southbound right-turn lane; and
c) Add one eastbound right-turn lane.

INT #14 *Browning Road/Cliff Avenue* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
d) Westbound: one left-turn lane and one shared through/right-turn lane.

INT #15 *Browning Road/Taylor Avenue* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;

c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
d) Westbound: one left-turn lane and one shared through/right-turn lane.

INT #16 *Frontage Road/Hanawalt Avenue* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane and one shared through/right-turn lane;
b) Southbound: one left-turn lane and one shared through/right-turn lane;
c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and
d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

INT #17 *Browning Road/Hanawalt Avenue* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and
d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

INT #18 *Browning Road/Nill Avenue* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
d) Westbound: one left-turn lane and one shared through/right-turn lane.

INT #19 *Commercial Access/Whisler Road* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Southbound: one left-turn lane, and one shared left/right-turn lane;
b) Eastbound: one left-turn lane and two through lanes; and
c) Westbound: two through lanes and one right-turn lane with right-turn overlap phasing.

INT #20 *Browning Road/Whisler Road* – Construct a new signalized intersection to consist of the following intersection approach geometry:

a) Northbound: one left-turn lane and one shared through/right-turn lane;
b) Southbound: one left-turn lane, one through lane, and one right-turn lane with right-turn overlap phasing;
c) Eastbound: two left-turn lanes, one through lane, and one shared through/right-turn; and

d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

Roadway Segment Operations

Table 5.4-11, *Forecast Year 2040 With Project Roadway Segment Daily Capacity Analysis*, summarizes the roadway segment daily capacity analysis and LOS. As shown in Table 5.4-11, the study roadway segments are forecast to operate at an acceptable LOS (LOS D or better) for forecast year 2040 with project conditions, with the exception of the following four roadway segments:

- Whisler Road west of Garzoli Avenue (LOS F);
- Mast Avenue from Sherwood Avenue to Taylor Avenue (LOS F);
- Mast Avenue from Taylor Avenue to Hanawalt Avenue (LOS F); and
- Mast Avenue from Hanawalt Avenue to Whisler Road (LOS E).

Recommended Improvements/Measures

The following modifications to the baseline Circulation Element are recommended for forecast year 2040 with project conditions:

- Widen Whisler Road west of Garzoli Avenue (to Stradley Avenue) from a two-lane undivided roadway to a two-lane divided roadway;

- Widen Mast Avenue to its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Taylor Avenue; and

- Construct Mast Avenue from Taylor Avenue to Whisler Road at its ultimate cross-section width as a four-lane divided arterial roadway from Taylor Avenue to Whisler Road.

Conclusion

As indicated in Table 5.4-11, the study roadway segments are forecast to operate within acceptable City-established performance criteria of LOS D or better for forecast year 2040 with project conditions, with exception of the four significantly impacted roadway segments. Recommended improvements/measures of future study intersection geometry and controls have been identified under Mitigation Measures TRA-1 to address significant impacts and to maintain the City-established performance criteria of LOS D or better for forecast year 2040 with project conditions. In addition, future development would be required to adhere to McFarland General Plan Policy 1-8, which involves new development mitigating traffic impacts associated with the project on SR-99, arterial streets, collector streets, and local streets including traffic control devices, bridges over SR-99, and interchanges. With implementation of the recommended intersection study intersection geometry and controls, no significant impacts are forecast at the study intersections for forecast year 2040 with project conditions. A less than significant impact would occur in this regard.

Table 5.4-11
Forecast Year 2040 With Project Roadway Segment Daily Capacity Analysis Summary

Name		Segment	Existing Street Class[1]	Existing Roadway Capacity	Existing Conditions[2]			Forecast 2040 Year Without Project[2]			Future Street Class[1]	Future Roadway Capacity	Forecast 2040 Year With Project[2]		
					Existing Daily Traffic	Existing V/C Ratio	Existing LOS	Daily Traffic	V/C Ratio	LOS			Daily Traffic	V/C Ratio	LOS
1	Sherwood Avenue	West of SR-99/1st Street	2U	12,000	4,800	0.40	A	6,100	0.51	A	4D	37,500	25,400	0.68	B
2	1st Street	North of Sherwood Avenue	2U	12,000	2,800	0.23	A	3,600	0.30	A	4D	37,500	9,700	0.26	A
3	1st Street	Sherwood Avenue to SR-99	2U	12,000	4,200	0.35	A	5,400	0.45	A	4D	37,500	16,300	0.43	A
4	Sherwood Avenue	SR-99 To Browning Road	2U	12,000	4,600	0.38	A	5,900	0.49	A	4D	37,500	21,700	0.58	A
5	Sherwood Avenue	Browning Road to Bowman Road	2U	12,000	3,612	0.30	A	4,600	0.38	A	4D	37,500	10,200	0.27	A
6	Sherwood Avenue	Bowman Road to Driver Road	2U	12,000	1,400	0.12	A	1,800	0.15	A	4D	37,500	5,500	0.15	A
7	Sherwood Avenue	East of Driver Road	2U	12,000	1,400	0.12	A	1,800	0.15	A	2U	12,000	3,800	0.32	A
8	Cliff Avenue	West of Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	1,500	0.08	A
9	Cliff Avenue	East of Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	7,000	0.37	A
10	Taylor Avenue	Garzoli Avenue to Mast Avenue	2U	12,000	1,500	0.13	A	1,900	0.16	A	2D	18,800	1,800	0.10	A
11	Taylor Avenue	Mast Avenue to Frontage Road	2U	12,000	884	0.07	A	1,100	0.09	A	2D	18,800	6,500	0.35	A
12	Taylor Avenue	Frontage Road to Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	4,800	0.26	A
13	Taylor Avenue	Browning Road to Bowman Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	7,500	0.40	A
14	Taylor Avenue	Bowman Road to Driver Road	2U	12,000	56	0.00	A	70	0.01	A	2D	18,800	1,000	0.05	A
15	Taylor Avenue	East of Driver Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2U	12,000	700	0.06	A
16	Hanawalt Avenue	West of Garzoli Avenue	2U	12,000	100	0.01	A	100	0.01	A	2U	12,000	700	0.06	A
17	Hanawalt Avenue	Garzoli Avenue to Mast Avenue	2U	12,000	60	0.01	A	80	0.01	A	4D	37,500	8,300	0.22	A
18	Hanawalt Avenue	Mast Avenue to Frontage Road	2U	12,000	8	0.00	A	10	0.00	A	4D	37,500	15,300	0.41	A
19	Hanawalt Avenue	Frontage Road to SR-99	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	14,400	0.38	A
20	Hanawalt Avenue	West of SR-99	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	14,400	0.38	A
21	Hanawalt Avenue	SR-99 to Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	14,400	0.38	A
22	Hanawalt Avenue	Browning Road to Bowman Road	2U	12,000	10	0.00	A	10	0.00	A	4D	37,500	7,600	0.20	A
23	Hanawalt Avenue	Bowman Road to Driver Road	2U	12,000	10	0.00	A	10	0.00	A	4D	37,500	1,400	0.04	A
24	Hanawalt Avenue	East of Driver Road	2U	12,000	300	0.03	A	400	0.03	A	2U	12,000	700	0.06	A
25	Nill Avenue	West of Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	7,200	0.38	A
26	Nill Avenue	East of Browning Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	3,300	0.18	A
27	Whisler Road	West of Garzoli Avenue	2U	12,000	1,300	0.11	A	1,700	0.14	A	2U	12,000	15,500	1.29	**F**

Table 5.4-11 [continued]
Forecast Year 2040 With Project Roadway Segment Daily Capacity Analysis Summary

Name		Segment	Existing Street Class[1]	Existing Roadway Capacity	Existing Conditions[2]			Forecast 2040 Year Without Project[2]			Future Street Class[1]	Future Roadway Capacity	Forecast 2040 Year With Project[2]		
					Existing Daily Traffic	Existing V/C Ratio	Existing LOS	Daily Traffic	V/C Ratio	LOS			Daily Traffic	V/C Ratio	LOS
28	Whisler Road	Garzoli Avenue to Mast Avenue	2U	12,000	1,300	0.11	A	1,700	0.14	A	4D	37,500	5,200	0.14	A
29	Whisler Road	Mast Avenue to Commercial Access	2U	12,000	2,275	0.19	A	2,900	0.24	A	4D	37,500	17,400	0.46	A
30	Whisler Road	Commercial Access to SR-99	2U	12,000	2,275	0.19	A	2,900	0.24	A	4D	37,500	26,700	0.71	C
31	Whisler Road	West of SR-99	2U	12,000	1,700	0.14	A	2,200	0.18	A	4D	37,500	22,100	0.59	A
32	Whisler Road	SR-99 to Browning Road	2U	12,000	1,142	0.10	A	1,500	0.13	A	4D	37,500	20,000	0.53	A
33	Whisler Road	Browning Road to Bowman Road	2U	12,000	1,142	0.10	A	1,500	0.13	A	4D	37,500	6,600	0.18	A
34	Whisler Road	Bowman Road to Driver Road	2U	12,000	1,142	0.10	A	1,500	0.13	A	4D	37,500	1,800	0.05	A
35	Garzoli Avenue	Taylor Avenue to Hanawalt Avenue	2U	12,000	600	0.05	A	800	0.07	A	4D	37,500	1,100	0.03	A
36	Garzoli Avenue	Hanawalt Avenue to Whisler Road	2U	12,000	579	0.05	A	700	0.06	A	4D	37,500	11,100	0.30	A
37	Garzoli Avenue	South of Whisler Road	2U	12,000	50	0.00	A	60	0.01	A	2U	12,000	700	0.06	A
38	Mast Avenue	Sherwood Avenue to Taylor Road	2U	12,000	3,500	0.29	A	4,500	0.38	A	2D	18,800	20,400	1.09	**F**
39	Mast Avenue	Taylor Avenue to Hanawalt Avenue	2U	12,000	2,945	0.25	A	3,800	0.32	A	2D	18,800	20,600	1.10	**F**
40	Mast Avenue	Hanawalt Avenue to Whisler Road	2U	12,000	1,215	0.10	A	1,600	0.13	A	2D	18,800	17,400	0.93	**E**
41	Mast Avenue	South of Whisler Road	2U	12,000	30	0.00	A	40	0.00	A	2U	12,000	700	0.06	A
42	Commercial Access	North of Whisler Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	10,300	0.55	A
43	Frontage Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	900	0.05	A
44	Frontage Road	Hanawalt Avenue to Nill Avenue	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	4,200	0.22	A
45	Browning Road	North of Sherwood Avenue	2U	12,000	1,700	0.14	A	2,200	0.18	A	4D	37,500	25,600	0.68	B
46	Browning Road	Sherwood Avenue to Cliff Avenue	2U	12,000	61	0.01	A	80	0.01	A	4D	37,500	19,700	0.53	A
47	Browning Road	Cliff Avenue to Taylor Avenue	2U	12,000	61	0.01	A	80	0.01	A	4D	37,500	14,700	0.39	A
48	Browning Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	19,400	0.52	A
49	Browning Road	Hanawalt Avenue to Nill Avenue	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	14,800	0.39	A
50	Browning Road	Nill Avenue to Whisler Road	-	N/A	-	N/A	N/A	-	N/A	N/A	4D	37,500	14,400	0.38	A
51	Browning Road	South of Whisler Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2U	12,000	900	0.08	A
52	Bowman Road	North of Sherwood Avenue	2U	12,000	10	0.00	A	10	0.00	A	2D	18,800	700	0.04	A
53	Bowman Road	Sherwood Avenue to Taylor Road		N/A		N/A	N/A	-	N/A	N/A	2D	18,800	1,500	0.08	A
54	Bowman Road	Taylor Avenue to Hanawalt Avenue	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	5,300	0.28	A

Table 5.4-11 [continued]
Forecast Year 2040 With Project Roadway Segment Daily Capacity Analysis Summary

Name		Segment	Existing Street Class[1]	Existing Roadway Capacity	Existing Conditions[2]			Forecast 2040 Year Without Project[2]			Future Street Class[1]	Future Roadway Capacity	Forecast 2040 Year With Project[2]		
					Existing Daily Traffic	Existing V/C Ratio	Existing LOS	Daily Traffic	V/C Ratio	LOS			Daily Traffic	V/C Ratio	LOS
55	Bowman Road	Hanawalt Avenue to Whisler Road	-	N/A	-	N/A	N/A	-	N/A	N/A	2D	18,800	5,700	0.30	A
56	Bowman Road	South of Whisler Road	2U	12,000	100	0.01	A	100	0.01	A	2U	12,000	700	0.06	A
57	Driver Road	North of Sherwood Avenue	2U	12,000	1,100	0.09	A	1,400	0.12	A	4D	37,500	1,300	0.03	A
58	Driver Road	Sherwood Avenue to Taylor Road	2U	12,000	981	0.08	A	1,300	0.11	A	4D	37,500	2,100	0.06	A
59	Driver Road	Taylor Avenue to Hanawalt Avenue	2U	12,000	1,000	0.08	A	1,300	0.11	A	4D	37,500	1,500	0.04	A
60	Driver Road	Hanawalt Avenue to Whisler Road	2U	12,000	1,014	0.08	A	1,300	0.11	A	4D	37,500	1,500	0.04	A
61	Driver Road	South of Whisler Road	2U	12,000	800	0.07	A	1,000	0.08	A	2U	12,000	1,900	0.16	A

Notes:
1. Roadway segment capacity: 2U = 12,000 vehicles per day (vpd); 2D = 18,800 vpd; 4D = 37,500 vpd.
2. V/C = volume to capacity ratio; LOS = level of service; N/A = Not Applicable.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 1: Establish a circulation system that is consistent with the planned land use patterns of the City of McFarland as presented in the Land Use Element.

Policy 1-1: Develop a network consisting of roads, pedestrian access, bicycle routes, and public transit that is compatible with the Land Use Element.

Policy 1-2: The City shall develop standards for Arterial, Collector, and Local Streets. The standards for Arterial and Collector streets maybe modified so as not to require four-lanes, but rather a two-lane configuration with a median. Arterials and Collector streets shall include bicycle lanes, sidewalks, and landscaping.

Policy 1-3: The locations of major intersections of Collector and Arterial streets shall be fixed by the Circulation Element. Roadway dedications and development design shall implement the Circulation Element.

Policy 1-4: Developers in newly developing areas shall prepare Master Plans or Specific Plans which identify future major street alignments. The City will participate in the design of street alignments in advance of development to ensure consistent and logical design of the circulation system.

Policy 1-6: Require the dedication of rights-of-ways for streets as part of the entitlement process.

Policy 1-7: On developed streets, where the existing right-of-way does not meet the current standards, the City of McFarland will adopt and fund a program to acquire the ultimate right-of-way where practical for Arterial and Collector streets. Funding mechanisms may include but are not limited to traffic impact fees collected from new development in relationship to the circulation effects of that new development.

Policy 1-8: New development shall be required to mitigate traffic impacts associated with the project on State Route 99, Arterial Streets, Collector Streets, and local streets including traffic control devices, and bridges over State Route 99 and interchanges.

Policy 1-9: The City shall promote an active policy of consolidating driveways, access points and curb cuts along existing Arterial and Collector streets when a zone change to a greater density or intensity, division of property, or new development or a major remodeling occurs.

Policy 1-10: To help ensure that adequate and safe travel ways can be developed through existing developed areas of the City, rights-of-way standards for each classification may be modified.

Objective 2: Provide timely and effective means of programming and constructing street and highway improvements to maintain an overall Level of Service of "C", with a peak hour Level of Service of "D".

Policy 2-1: Transportation projects shall be prioritized with emphasis on reducing traffic congestion and improving traffic circulation.

Policy 2-2: Street improvements shall be prioritized with emphasis on current and forecasted service levels. Roadways experiencing or forecasted to experience conditions less than Level of Service "D" should receive the highest priority.

Objective 3: Achieve a coordinated regional and local transportation system.

Policy 3-1: Local circulation system improvements shall be reviewed for consistency with the Kern Council of Governments Regional Transportation Plan.

Policy 3-2: The City will work with Caltrans to identify and implement needed improvements to State Route 99, interchanges and related local intersections.

Objective 4: Promote maximum opportunities for pedestrian and bicycle traffic throughout the City of McFarland by continuing to develop and maintain a safe sidewalk and trail system that facilitates pedestrian and bicycle access.

Policy 4-1: Consistent with the Land Use Element, subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet.

Policy 4-2: Consistent with the Land Use Element, subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining major streets is provided not greater than every 800 feet, including comers of the project.

Policy 4-3: Consistent with the Land Use Element, the pedestrian/bicycle access may be by way of a street or a separate pedestrian/bicycle way. If a separate pedestrian/bicycle way is used, it shall not be less than 10 feet in width. Bollards or similar devices may be installed to prevent automobile use of the pedestrian/bicycle way.

Policy 4-4: Exclusive bicycle and pedestrian access to community services, including but not limited to schools, parks, and neighborhood shopping activity centers is strongly encouraged.

Policy 4-8: When intersection traffic warrants are met for the installation of a traffic control device, the preferred method shall be the use of a round-about, unless an engineered traffic study shows that a round-about would not be feasible at a particular location.

Objective 5: Promote and improve access to public transit opportunities.

Policy 5-1: New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit.

Policy 5-2: Arterial and Collector street designs shall include future pull-outs for bus stops.

Policy 5-3: The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules.

Objective 7: Coordinate transit system development with community planning and development efforts, and land use policy.

Policy 7-1: Encourage new facilities that may impact local transit services to locate within the current service area.

Policy 7-2: Coordinate alternative commute programs with the private sector and other transit providers.

Objective G6: Provide and encourage opportunities for Mixed Use and Transit-Oriented Development.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.2: Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.
d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Project Mitigation Measures:

TRA-1 Prior to issuance of each Building Permit, future development projects that are determined through preparation of a Traffic Impact Analysis to impact the intersections or roadways specified below, shall make a fair contribution toward implementation of the following improvements. These development projects shall be required to contribute to the implementation of mitigation measures by the payment of fair share costs, constructing the required improvement, providing right-of-way, or other actions as required by the City.

- *Intersection 1 – Browning Road/Sherwood Avenue*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane and one northbound through lane;
  c) Add one southbound left-turn lane and one southbound through lane;
  d) Add two eastbound left-turn lanes and one eastbound through lane; and
  e) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 2 – Bowman Road/Sherwood Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane;
  b) Add one southbound left-turn lane;
  c) Add one eastbound left-turn lane and one eastbound through lane; and
  d) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 3 – Driver Road/Sherwood Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane and one northbound through lane;
  b) Add one southbound left-turn lane one southbound through lane;
  c) Add one eastbound left-turn lane and one eastbound right-turn lane; and
  d) Add one westbound left-turn lane.

- *Intersection 4 – Mast Avenue/Taylor Avenue*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane;

c) Add one southbound left-turn lane; and
d) Add one eastbound left-turn lane.

- *Intersection 5 – Driver Road/Taylor Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane;
  b) Add one southbound left-turn lane;
  c) Add one eastbound left-turn lane; and
  d) Add one westbound left-turn lane.

- *Intersection 6 – Garzoli Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane and one northbound through lane;
  b) Add one southbound left-turn lane and one southbound through lane;
  c) Add one eastbound left-turn lane; and
  d) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 7 – Mast Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane;
  c) Add one southbound left-turn lane;
  d) Add one eastbound left-turn lane and one eastbound through lane; and
  e) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 8 – Bowman Avenue/Hanawalt Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane;
  b) Add one southbound left-turn lane;
  c) Add one eastbound left-turn lane and one eastbound through lane; and
  d) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 9 – Driver Road/Hanawalt Avenue*. Construct the following improvements at the existing intersection:
  a) Add one northbound left-turn lane and one northbound through lane;
  b) Add one southbound left-turn lane and one southbound through lane;
  c) Add one eastbound left-turn lane and one eastbound right-turn lane; and
  d) Add one westbound left-turn lane.

- *Intersection 10 – Garzoli Avenue/Whisler Road*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane;
  c) Add one southbound left-turn lane and one southbound right-turn lane with right-turn overlap phasing;
  d) Add one eastbound left-turn lane; and
  e) Add one westbound left-turn lane and one westbound right-turn lane.

- *Intersection 11 – Mast Avenue/Whisler Road*. Construct the following improvements at the existing intersection:
    a) Add one northbound left-turn lane;
    b) Add one southbound left-turn lane;
    c) Add one eastbound left-turn lane and one eastbound through lane; and
    d) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 12 – Bowman Road/Whisler Road*. Construct the following improvements at the existing intersection:
    a) Add one northbound left-turn lane;
    b) Add a stop-controlled southbound approach consisting of one left-turn lane and one shared through/right-turn lane;
    c) Add one eastbound left-turn lane and one eastbound through lane; and
    d) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 13 – Driver Road/Whisler Road*. Construct the following improvements at the existing intersection:
    a) Add one northbound left-turn lane;
    b) Add one southbound right-turn lane; and
    c) Add one eastbound right-turn lane.

- *Intersection 14 – Browning Road/Cliff Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:
    a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
    b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
    c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
    d) Westbound: one left-turn lane and one shared through/right-turn lane.

- *Intersection 15 – Browning Road/Taylor Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:
    a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
    b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
    c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
    d) Westbound: one left-turn lane and one shared through/right-turn lane.

- *Intersection 16 – Frontage Road/Hanawalt Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:
    a) Northbound: one left-turn lane and one shared through/right-turn lane;
    b) Southbound: one left-turn lane and one shared through/right-turn lane;
    c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and

d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

- *Intersection 17 – Browning Road/Hanawalt Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:
  a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
  b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
  c) Eastbound: one left-turn lane, one through lane, and one shared through/right-turn lane; and
  d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

- *Intersection 18 – Browning Road/Nill Avenue*. Construct a new signalized intersection to consist of the following intersection approach geometry:
  a) Northbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
  b) Southbound: one left-turn lane, one through lane, and one shared through/right-turn lane;
  c) Eastbound: one left-turn lane and one shared through/right-turn lane; and
  d) Westbound: one left-turn lane and one shared through/right-turn lane.

- *Intersection 19 – Commercial Access/Whisler Road*. Construct a new signalized intersection to consist of the following intersection approach geometry:
  a) Southbound: one left-turn lane, and one shared left/right-turn lane;
  b) Eastbound: one left-turn lane and two through lanes; and
  c) Westbound: two through lanes and one right-turn lane with right-turn overlap phasing.

- *Intersection 20 – Browning Road/Whisler Road*. Construct a new signalized intersection to consist of the following intersection approach geometry:
  a) Northbound: one left-turn lane and one shared through/right-turn lane;
  b) Southbound: one left-turn lane, one through lane, and one right-turn lane with right-turn overlap phasing;
  c) Eastbound: two left-turn lanes, one through lane, and one shared through/right-turn; and
  d) Westbound: one left-turn lane, one through lane, and one shared through/right-turn lane.

- Widen Whisler Road west of Garzoli Avenue (to Stradley Avenue) from a two-lane undivided roadway to a two-lane divided roadway.

- Widen Mast Avenue to its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Taylor Avenue.

- Construct Mast Avenue from Taylor Avenue to Whisler Road at its ultimate cross-section width as a four-lane divided arterial roadway from Taylor Avenue to Whisler Road.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

CMP AND STATE HIGHWAY FACILITIES

TRA-2 PROJECT IMPLEMENTATION COULD CONFLICT WITH AN APPLICABLE CONGESTION MANAGEMENT PROGRAM, INCLUDING, BUT NOT LIMITED TO LOS STANDARDS AND TRAVEL DEMAND MEASURES, OR OTHER STANDARDS ESTABLISHED BY THE COUNTY CONGESTION MANAGEMENT AGENCY FOR DESIGNATED ROAD OR HIGHWAY.

Impact Analysis:

STATE HIGHWAY

Forecast Year 2040 Without Project Conditions

Table 5.4-12, *Forecast Year 2040 Without Project Conditions State Highway Study Intersection LOS*, summarizes a.m. and p.m. peak hour LOS of the State Highway study intersections for forecast year 2040 without project conditions. As shown in Table 5.4-12, the study intersections are forecast to operate at an acceptable LOS for forecast year 2040 without project conditions based upon State Highway performance criteria of LOS D or better.

Table 5.4-12
Forecast Year 2040 Without Project Conditions State Highway Study Intersection LOS

Study Intersection		Forecast 2040 Without Project Conditions[1] Delay – LOS	
		AM Peak Delay[2] LOS	PM Peak Delay[2] LOS
21	SR-99 NB Ramps/1st Street	13.6 – B	14.1 – B
22	1st Street/Sherwood Avenue/SR-99 SB Ramps	15.6 – B	16.2 – B
23	SR-99 NB Ramps/Whisler Road	9.7 – A	9.7 – B
24	SR-99 SB Ramps/Whisler Road	16.8– B	16.8 – B
25	SR-99 NB Ramps/Hanawalt Avenue	N/A	N/A
26	SR-99 SB Ramps/Hanawalt Avenue	N/A	N/A

1. Source: Traffic Engineering Performance Assessment (TEPA) Draft Report for the State Route 99 (SR-99)/Hanawalt Avenue Interchange PSR/PDS in McFarland, CA, (Fehr & Peers, June 2015); refer to Appendix G of Appendix B.
2. Highway Capacity Manual (HCM) Analysis Method, average delay.

Forecast Year 2040 With Project Conditions

Table 5.4-13, *Forecast Year 2040 With Project Conditions AM/PM Peak Hour State Highway Intersection LOS*, summarizes forecast year 2040 with project conditions a.m. and p.m. peak hour LOS of the State Highway study intersections for forecast year 2040 with project conditions.

Table 5.4-13
Forecast Year 2040 With Project Conditions
AM/PM Peak Hour State Highway Intersection LOS

Study Intersection		Forecast 2040 With Project Conditions[1]	
		AM Peak Hour	PM Peak Hour
		Delay[2] – LOS	Delay[2] - LOS
21	SR-99 NB Ramps/1st Street	10.0 – B	24.0 – C
22	1st Street/Sherwood Avenue/SR-99 SB Ramps	21.0 – C	51.0 – D
23	SR-99 NB Ramps/Whisler Road	9.0 – A	35.0 – D
24	SR-99 SB Ramps/Whisler Road	12.0 – B	29.0 – C
25	SR-99 NB Ramps/Hanawalt Avenue	N/A	N/A
26	SR-99 SB Ramps/Hanawalt Avenue	N/A	N/A

Notes:
1. Source: Traffic Engineering Performance Assessment (TEPA) Draft Report for the State Route 99 (SR-99)/Hanawalt Avenue Interchange PSR/PDS in McFarland, CA, (Fehr & Peers, June 2015); refer to Appendix G of Appendix B.
2. Highway Capacity Manual (HCM) Analysis Method, Average Delay, LOS = Level of Service.

As shown in Table 5.4-13, the study intersections are forecast to operate at an acceptable LOS based upon State Highway performance criteria of LOS D or better for forecast year 2040 with project conditions with the improvements identified in the SR-99/Hanawalt Interchange Study.

Congestion Management Program Compliance

The CMP is designed to ensure that a balanced transportation system is developed, relating population and traffic growth, land use decisions, performance standards, and air quality improvements. The purpose of the CMP is to monitor the performance of the transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning.

According to the Kern COG 2014 Final Regional Transportation Plan (2014 RTP), SR-99 is identified as a CMP facility. Table 5.4-13 evaluates the CMP study intersections under the State Highway performance criteria and thresholds of significance. As indicated in Table 5.4-13, the CMP facilities would continue to operate at an acceptable LOS for forecast year 2040 with project conditions.

Recommended Improvements/Measures

In addition to the recommended Circulation Element roadway network for the study area for forecast year 2040 with project conditions, the following summary describes State Highway study intersection improvements (over existing conditions) necessary to achieve the recommended intersection geometry and controls previously shown on Exhibit 16 of the Traffic Impact Analysis and maintain the State Highway performance criteria of LOS D or better for forecast existing with project conditions:

INT #21 *SR-99 Northbound Ramps/1st Street* – Install a traffic signal at the existing intersection.

INT #22 *1st Street/Sherwood Avenue/SR-99 Southbound Ramps* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane;
c) Add one southbound left-turn lane and one southbound through lane;
d) Add two eastbound left-turn lanes; and
e) Add one westbound left-turn lane and one westbound through lane.

INT #23 *SR-99 Northbound Ramps/Whisler Road* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one northbound left-turn lane;
c) Add one eastbound through lane; and
d) Add one westbound through lane.

INT #24 *SR-99 Southbound Ramps/Whisler Road* – Construct the following improvements at the existing intersection:

a) Install a traffic signal;
b) Add one eastbound left-turn lane and one eastbound through lane; and
c) Add one westbound through lane and one westbound right-turn lane.

Conclusion

As indicated in Table 5.4-13, the CMP study intersections are forecast to operate at an acceptable LOS based upon State Highway performance criteria of LOS D or better for forecast year 2040 with project conditions. Implementation of Mitigation Measure TRA-2 would maintain the State Highway performance criteria of LOS D or better for forecast existing with project conditions. Future development would also be required to adhere to McFarland General Plan Policy 1-8, which involves new development mitigating traffic impacts associated with the project on SR-99, arterial streets, collector streets, and local streets including traffic control devices, bridges over SR-99, and interchanges. With implementation of the recommended study intersection improvements, project implementation would result in a less than significant impact to CMP study intersections.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures:

TRA-2 Prior to issuance of each Building Permit, future development projects that are determined through preparation of a Traffic Impact Analysis to impact the intersections or roadways specified below, shall make a fair contribution toward implementation of the following improvements. These development projects shall be required to contribute to the implementation of mitigation measures by the payment of fair share costs, constructing the required improvement, providing right-of-way, or other actions as required by the City.

- *Intersection 21 – SR-99 Northbound Ramps/1st Street*. Install a traffic signal at the existing intersection.

- *Intersection 22 – 1st Street/Sherwood Avenue/SR-99 Southbound Ramps*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane;
  c) Add one southbound left-turn lane and one southbound through lane;
  d) Add two eastbound left-turn lanes; and
  e) Add one westbound left-turn lane and one westbound through lane.

- *Intersection 23 – SR-99 Northbound Ramps/Whisler Road*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one northbound left-turn lane;
  c) Add one eastbound through lane; and
  d) Add one westbound through lane.

- *Intersection 24 – SR-99 Southbound Ramps/Whisler Road*. Construct the following improvements at the existing intersection:
  a) Install a traffic signal;
  b) Add one eastbound left-turn lane and one eastbound through lane; and
  c) Add one westbound through lane and one westbound right-turn lane.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

HAZARDOUS DESIGN FEATURE

TRA-3 PROJECT IMPLEMENTATION COULD SUBSTANTIALLY INCREASE HAZARDS DUE TO A DESIGN FEATURE (E.G., SHARP CURVES OR DANGEROUS INTERSECTIONS) OR INCOMPATIBLE USES (E.G., FARM EQUIPMENT).

Impact Analysis: Although the project does not involve site-specific development at this time, future development activities could include the development of new intersection and roadway improvements. As noted above, future development as a result of the proposed project would require improvements over existing conditions to achieve the recommended intersection geometry and controls to maintain the City-established performance criteria of LOS D or better. All roads on-site would be paved and would comply with existing McFarland Fire Department requirements for emergency access. On-site roads would undergo a detailed site plan review by the McFarland Fire Department to ensure that appropriate widths, turning radii, and signage comply with existing standards for safety and circulation. Thus, the project is not expected to result in hazardous traffic conditions related to on-site circulation or internal access. The project would not result in the creation of any roadway features (e.g., sharp curves or dangerous intersections) having the potential to result in a substantial increase in hazards. In addition, the project does not propose any land uses that would involve incompatible features or equipment that could cause a hazard on roadways in the project area. As such, impacts in this regard would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

ALTERNATIVE TRANSPORTATION

TRA-4 PROJECT IMPLEMENTATION COULD CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS REGARDING PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES, OR OTHERWISE DECREASE THE PERFORMANCE OR SAFETY OF SUCH FACILITIES.

Impact Analysis:

PUBLIC TRANSIT

The transit services that are available in the project's vicinity include the McFarland City Transit Bus and Kern Transit.

Interference with Existing or Planned Service

Future development is not anticipated to interfere with access to any of the existing routes, lines, or services. The project would enhance transit services by improving circulation and access within the City. There are no known planned expansions to McFarland's existing bus service. Implementation of Circulation Element Policy 5-3, which specifies that the City shall coordinate with regional transportation agencies and providers, would be required. Implementation of Policy 7-1 would ensure that new facilities are located within the current service area. Therefore, potential impacts involving interference with transit services would be less than significant.

Conflicts with Adopted Plans, Guidelines, or Policies

The Circulation Element establishes various policies (Policies 3-1, 4-1 through 4-4, 5-1 through 5-3, 7-1, and 7-2) that provide mobility and access for all modes of travel including transit, and an interconnected network of bicycle, pedestrian, and transit facilities that accommodate and encourage travel through non-automotive modes. All future development within the City would be subject to implementation of the identified Policies, which would ensure conflicts with the established Goals involving transit service would not occur.

Demand for Service

Project implementation would increase the City's population and employment generating uses, with resultant increases in the demands upon the transit systems. Based on CMP guidelines, the proposed project is forecast to generate an estimated 172,022 daily trips. In accordance with CMP guidelines, person trips can be estimated using a 1.4 factor to convert total vehicle trips to person trips, which results in a total of approximately 240,830 daily person trips generated by the project.

Based on CMP guidelines for determining trips assigned to transit, the following factor applicable to the proposed project is utilized:

- 3.5 percent of Total Person Trips Generated.

As shown in Table 5.4-14, *CMP Transit Trip Generation of the Project*, based on the CMP guidelines, and the proximity of the various project land uses in relation to available transit in the project vicinity, the project is forecast to generate approximately 8,429 daily transit trips.

Table 5.4-14
CMP Transit Trip Generation of the Project

Trips	Daily Trips
Trip Generation of Project (Veh)	172,022
Person Trips Conversion Factor	1.4
Person Trips of the Project	240,830
3.5% Transit Trips Conversion Factor	3.5%
Total Transit Trips of the Project	**8,429**
Note: Veh = Vehicles	

Increased public transit usage would expand access by City residents to employment and other resources and related services available throughout the region. The increased use of public transit systems would reduce dependency on private automobiles and have the potential to reduce congestion and mobile source emissions, producing both localized and regional benefits. Although, future development in the City in accordance with the project would generate an increased demand for transit services, project implementation would also accommodate alternative forms of transportation, such as public transit. In addition, it is the City's goal to plan for, create, and maintain an efficient, cost effective, safe, and coordinated multi-modal circulation system, serving the needs of a variety of users. Accordingly, the City has identified General Plan objectives and policies in order to meet the specified goal by achieving a coordinated regional and local transportation system and promoting and improving access to public transit opportunities. All future development within the City would be required to comply with the General Plan policies, which would ensure conflicts with the Circulation Element's goal, objectives, and policies involving public transit and bus services would not occur. Therefore, less than significant impacts would occur in this regard.

BICYCLE AND PEDESTRIAN FACILITIES

Although bicycle traffic currently comprises a small percentage of the overall traffic in the City, it is anticipated that bicycle travel would grow as population and employment increase in McFarland. According to the City's Circulation Element, bicycle travel would be designated with dedicated bicycle lanes (class II), bicycle routes (class III) that consists of the bicyclist sharing the travel lanes with motorized vehicles mostly on signed residential streets, and bicycle paths (class I) that would be dedicated in the future; refer to Figure CBL of the Circulation Element that depicts the separate classes. Additionally, it is the City's goal to plan for, create, and maintain an efficient, cost effective, safe, and coordinated multi-modal circulation system, serving the needs of a variety of users as illustrated in Figure BCP-2 of the Circulation Element.

Interference with Existing or Planned Facilities

Future development in the project area could temporarily interfere with existing facilities. However, through the City's development review process, temporary interruptions to access would be identified and mitigated on a case-by-case basis. Additionally, all future roadway improvements would be implemented according to the Circulation Element and the City's adopted standards for typical street sections. Therefore, project implementation would result in less than significant impacts to existing and planned facilities.

Conflicts with Adopted Bicycle Plans, Guidelines, or Policies

The Circulation Element includes objectives and policies committed to establishing bicycle and trail amenities for the future. For example, Policies 4-1 through 4-4 require future development to incorporate access to transit and pedestrian/bicycle facilities. Additionally, Policy 5-1 requires new projects to incorporate car/vanpooling and access to public transit and Policy 7-2 requires the coordination of alternative commute programs with the private sector and other transit providers. Policy 5-3 requires pull-outs for bus stops and Policy 5-3 requires coordination with regional transportation agencies for the siting of stops and schedules. Per Policy 7-2, new facilities that impact local transit services should be located within the current service area. All future development and infrastructure/transportation improvements within the project area would be required to comply with the Circulation Element and McFarland General Plan policies, which would ensure conflicts with the McFarland General Plan's goal, objectives, and policies involving bicycle, and pedestrian facilities would not occur.

Demand for Service

Future development in accordance with the project would increase the City's population and employment generating uses, with resultant increases in the demands upon bicycle and pedestrian facilities. All future development would be subject to implementation of the Circulation Element policies, which would ensure that the necessary bicycle and pedestrian facilities are provided commensurate with the demand created by the new developments. Therefore, impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 4: Promote maximum opportunities for pedestrian and bicycle traffic throughout the City of McFarland by continuing to develop and maintain a safe sidewalk and trail system that facilitates pedestrian and bicycle access.

Policy 4-1: Consistent with the Land Use Element, subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet.

Policy 4-2: Consistent with the Land Use Element, subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining major streets is provided not greater than every 800 feet, including comers of the project.

Policy 4-3: Consistent with the Land Use Element, the pedestrian/bicycle access may be by way of a street or a separate pedestrian/bicycle way. If a separate pedestrian/bicycle way is used, it shall not be less than 10 feet in width. Bollards or similar devices may be installed to prevent automobile use of the pedestrian/bicycle way.

Policy 4-4: Exclusive bicycle and pedestrian access to community services, including but not limited to schools, parks, and neighborhood shopping activity centers is strongly encouraged.

Policy 4-8: When intersection traffic warrants are met for the installation of a traffic control device, the preferred method shall be the use of a round-about, unless an engineered traffic study shows that a round-about would not be feasible at a particular location.

Objective 5: Promote and improve access to public transit opportunities.

Policy 5-1: New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit.

Policy 5-2: Arterial and Collector street designs shall include future pull-outs for bus stops.

Policy 5-3: The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules.

Objective 7: Coordinate transit system development with community planning and development efforts, and land use policy.

Policy 7-1: Encourage new facilities that may impact local transit services to locate within the current service area.

Policy 7-2: Coordinate alternative commute programs with the private sector and other transit providers.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.4.5 CUMULATIVE IMPACTS

TRA-5 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE TRANSPORTATION AND CIRCULATION IMPACTS.

CUMULATIVE ROADWAY AND INTERSECTION OPERATIONS

As indicated in the Traffic Impact Analysis, four roadways within the project area would operate at LOS E or worse at forecast year 2040 with project conditions. With implementation of the recommended intersection study intersection geometry and controls, the four study roadways are forecast to operate at an acceptable LOS and no significant impacts are forecast at the study intersections for forecast year 2040 with project conditions. The increased traffic volumes resulting from development allowed by the proposed Land Use Plan could aggravate existing deficiencies and/or cause a roadway segment or intersection to operate at an unacceptable LOS. Such reductions in LOS could conflict with the City's established target for peak hour operations. The impacts would be dependent upon the specific site locations, intensity of development, and trip distribution characteristics. All future development within the City would be analyzed on a project-by-project basis, in order to determine whether preparation of an individual traffic impact assessment is warranted. If warranted, individual project-specific assessments of potential impacts to traffic and circulation would be conducted. If necessary, additional mitigation would be recommended to further minimize potential impacts. Compliance with recommended mitigation measures and General Plan policies would be required in order to reduce potential impacts to roadways and intersections to less than significant levels.

BICYCLE AND PEDESTRIAN FACILITIES

Implementation of the proposed project would not significantly impact existing public transit, bicycle, and pedestrian facilities. Although ridership and use of the facilities are anticipated to increase with cumulative development, the increased demands would be accommodated commensurate with the increased residential densities and nonresidential intensities anticipated by the future development associated with the General Plan Amendment. Impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures TRA-1 and TRA-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.4.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Traffic impacts associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies and recommended mitigation measures. No significant unavoidable impacts to transportation would occur as a result of project implementation.

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Section 5.5
Air Quality

5.5 AIR QUALITY

This section addresses the air emissions generated by the proposed project, and the potential impacts to air quality. The analysis also addresses the consistency of the proposed project with the air quality guidelines set forth within the *Guidance for Assessing and Mitigating Air Quality Impacts*, prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD), adopted March 19, 2015. The analysis of air emissions focuses on whether the proposed project would cause an exceedance of an ambient air quality standard or SJVAPCD significance threshold. Air quality technical data is included as Appendix C, *Air Quality/Greenhouse Gas Emissions Data*.

5.5.1 EXISTING SETTING

SAN JOAQUIN VALLEY AIR BASIN

The State of California is divided geographically into 15 different air basins. The City of McFarland is located in Kern County, within the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin portion of Kern County. The SJVAB is bounded by the Sierra Nevada Mountains in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. The surrounding topographic features restrict air movement through and out of the SJVAB and, as a result, impede the dispersion of pollutants from the SJVAB. Regional and local air quality within the SJVAB are impacted by topography, season, location, dominant airflows, and atmospheric inversions.

CLIMATE AND METEOROLOGY

Kern County is classified as a desert or steppe climate, both of which are identified as dry climates around the world. Although Kern County is not located within a tropical climate, portions of the County may experience "tropical" conditions during the summer months. Because of the distance and topographic features that separate the County from the Pacific Ocean, the County experiences a continental-type climate resulting in a drier and warmer condition than corresponding latitudes along the coast. Summertime conditions along the coast can, however influence the climate in the San Joaquin Valley (Valley) as cooler marine air can move forcefully through the Valley from the Sacramento Delta area to moderate the generally intense heat of the Valley. One of the most important climatic controls affecting the County is a high-pressure cell known as the North Pacific High. A high-pressure cell is an area of stable air, little precipitation, reduced visibility, inversion layers, and light winds resulting in pollution concentrations and little vertical mixing of air. In general, the Pacific High follows the sun, moving south for the winter, allowing storms into the County, and moving north in the summer, causing California's seasonal summertime drought. The movement of the high-pressure cell is not perfectly understood. During the 1970s and 1980s, the Pacific High did not always move south in the winters, causing severe drought conditions throughout the State. Intense heating in the summer months in the desert areas produces a weak thermal low pressure. Low-pressure areas are characterized in general by good visibility, higher wind speeds, greater rainfall, and more vertical mixing, producing an unstable air mass. This low-pressure area induces winds toward it from areas of higher pressure. Areas to the west are under dominance of the Pacific High.

The California cold air current flows from north to south off the California coast. The position of the current varies with time of year, being closer to the coastline in the warmer months. Currents are produced by winds, with the California cold current generated by the Pacific High. Air passing over it condenses into stratus clouds, a very common sight on the California beaches in the summer. This marine layer sometimes becomes so deep that it can penetrate the Coast Range and moderate air temperature in the Valley.

Topography plays a key role in the climate of Kern County. The County covers in excess of 8,100 square miles with the higher elevations in the mountainous regions extending over 8,700 feet compared to elevations in the Valley reaching only 205 feet mean sea level (msl). About one third of the County is situated on the floor of the San Joaquin Valley at the extreme southern end of the Valley. The Valley portion is walled in on three sides by a horseshoe-shaped rim of mountains; on the west is the Temblor Range (a part of the Coast Ranges), on the south is the San Emidio and Tehachapi Ranges, while the east is bordered by the southerly end of the Sierra Nevada. The mountainous area composes another third of the County. The final third of the Kern County land mass is located easterly of the mountain ranges to the high desert of the Mojave.[1]

LOCAL AMBIENT AIR QUALITY

The SJVAPCD monitors air quality at 29 monitoring stations throughout the SJVAB which analyze air quality data on an hourly basis. Some monitors provide both particulate matter (PM) data and ozone data, while other monitors only provide data as indicated. The monitoring station representative of the project area is the Shafter monitoring station, which is located approximately 10 miles southwest of the project area. However, this monitoring station only provides ozone (O_3) data. Therefore, local ambient air quality data for carbon monoxide (CO) and nitrogen dioxide (NO_2) has been derived from the Bakersfield-Municipal Airport monitoring station (2000 South Union Avenue, approximately 25.08 miles south/southeast of the project area), and fine particulate matter ($PM_{2.5}$) and coarse particulate matter (PM_{10}) data was taken from the Bakersfield-California Avenue monitoring station (5558 California Avenue, approximately 21.81 miles south/southeast of the project area). Sulfur dioxide (SO_2) is not measured at any monitoring stations in Kern County. The air quality data monitored at the Shafter and Bakersfield monitoring stations from 2012 to 2014 are presented in Table 5.5-1, *Measured Air Quality Levels*.

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide. Exposure to high levels of carbon monoxide can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations.

[1] County of Kern, *Kern County General Plan Recirculated Program Environmental Impact Report*, January 2004.

Table 5.5-1
Measured Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Standard Exceeded
	California	Federal			
Carbon Monoxide (CO)[2] (8-Hour)	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2012 2013 2014	1.20 ppm 1.80 1.90	0/0 0/0 0/0
Carbon Monoxide (CO)[2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2012 2012 2013	1.30 ppm 1.80 1.90	0/0 0/0 0/0
Ozone (O_3)[3] (1-Hour)	0.09 ppm for 1 hour	N/A	2012 2013 2014	0.103 ppm 0.112 0.100	50 1/0 2/0
Ozone (O_3)[3] (8-Hour)	0.07ppm for 8 hours	0.075 ppm for 8 hours	2011 2012 2013	0.090 ppm 0.097 0.087	64/30 19/5 28/11
Nitrogen Dioxide (NO_x)[3]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2012 2013 2014	0.052 ppm 0.059 0.059	0/0 0/0 0/0
Sulfur Dioxide (SO_X)	0.04 ppm for 24 hours	0.14 ppm for 24 hours	2012 2013 2014	N/A N/A N/A	N/A N/A N/A
Particulate Matter (PM_{10})[4, 5, 6]	50 µg/m³ for 24 hours	150 µg/m³ for 24 hours	2012 2013 2014	125.8 µg/m³ 120.7 430.1	55/0 16/0 69/1
Fine Particulate Matter ($PM_{2.5}$)[4,6]	No Separate State Standard	35 µg/m³ for 24 hours	2012 2013 2014	86.5 µg/m³ 114.9 101.9	NM/22 NM/44 NM/37

ppm = parts per million
µg/m³ = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Bakersfield-Municipal Airport Monitoring Station located at 2000 South Union Avenue, Bakersfield, CA 93307.
3. Measurements taken at the Shafter-Walker Street Monitoring Station located at 548 Walker Street, Shafter, CA, 93263.
4. Measurements taken at the Bakersfield-California Avenue Monitoring Station located at 5558 California Avenue, Bakersfield, CA 93309.
5. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *Aerometric Data Analysis and Measurement System (ADAM) Air Quality Data Statistics*, http://www.arb.ca.gov/adam/welcome.html, accessed on October 9, 2015.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are ozone precursors. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_X). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). Coarse particulate matter (PM_{10}) refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter ($PM_{2.5}$ [particulate matter 2.5 microns in diameter or less]), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging. Individuals with pre-existing respiratory and/or cardiovascular disease, the elderly and children may be more susceptible to adverse effects of particulate matter exposure. Exposure to varying levels of $PM_{2.5}$ has been associated with increased mortality due to cardiovascular or respiratory diseases, reduction in life-span and hospital admissions for acute respiratory conditions. In children, $PM_{2.5}$ exposure can lead to school absences, decreased respiratory function and increased medication use in those with asthma. Long-term particulate matter exposure has also been connected to reduced lung function growth in children. A consistent correlation between elevated ambient particulate matter levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X and lead. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Toxic Air Contaminants (TACs). Toxic Air Contaminants (TACs) (also referred to as hazardous air pollutants [HAPs]), are pollutants that result in an increase in mortality, a serious illness, or pose a present or potential hazard to human health. Health effects of TACs may include cancer, birth defects, and immune system and neurological damage.

TACs can be separated into carcinogens and noncarcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogenic TACs differ in that there is a safe level in which it is generally assumed that no negative health impacts would occur. These levels are determined on a pollutant-by-pollutant basis.

TACs are not considered criteria air pollutants and thus are not specifically addressed through the setting of ambient air quality standards. Instead, the EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT or BACT) to limit emissions.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14; elderly over 65; athletes; and people with cardiovascular and chronic respiratory diseases.

Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks. Sensitive uses within the immediate project area include adjacent single-family residences, parks, and a high school (McFarland High School).

5.5.2 REGULATORY SETTING

FEDERAL AND STATE

U.S. Environmental Protection Agency

The Environmental Protection Agency (EPA) is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, CO, NO_2, which is a form of NO_X, SO_2, which is a form of sulfur oxides (SO_x), PM_{10}, $PM_{2.5}$, and lead (Pb); refer to Table 5.5-2, *National and California Ambient Air Quality Standards*.

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.5-2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparation of the State Implementation Plan (SIP) for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

REGIONAL

San Joaquin Valley Air Pollution Control District

Regional Air Quality Management Districts (AQMD) or Air Pollution Control Districts (APCD) throughout the State are the regulatory authority for each of the air basins within California. These districts have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of the CARB and the EPA, and are required to adopt and enforce rules and regulations (produce attainment plans) that include air pollution control programs designed to achieve the NAAQS and CAAQS within their air basin and enforce applicable State and Federal law.

Table 5.5-2
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3,4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	**Nonattainment/Severe**	N/A	N/A[5]
	8 Hours	0.070 ppm (137 μg/m³)	**Nonattainment**	0.075 ppm (147 μg/m³)	**Nonattainment/Extreme**
Particulate Matter (PM_{10})	24 Hours	50 μg/m³	**Nonattainment**	150 μg/m³	Attainment
	Annual Arithmetic Mean	20 μg/m³	**Nonattainment**	N/A	Attainment
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 μg/m³	**Nonattainment**
	Annual Arithmetic Mean	12 μg/m³	**Nonattainment**	12.0 μg/m³	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m³)	Attainment/Unclassified	9 ppm (10 mg/m³)	Attainment/Unclassified
	1 Hour	20 ppm (23 mg/m³)	Attainment/Unclassified	35 ppm (40 mg/m³)	Attainment/Unclassified
Nitrogen Dioxide (NO_2)[5]	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	N/A	53 ppb (100 μg/m³)	Attainment/Unclassified
	1 Hour	0.18 ppm (339 μg/m³)	Attainment	100 ppb (188 μg/m³)	N/A
Lead (Pb)[7,8]	30 days Average	1.5 μg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 μg/m³	No Designation/Classification
	Rolling 3-Month Average	N/A	N/A	0.15 μg/m³	No Designation/Classification
Sulfur Dioxide (SO_2)[6]	24 Hours	0.04 ppm (105 μg/m³)	Attainment	0.14 ppm (for certain areas)	Attainment/Unclassified
	3 Hours	N/A	N/A	N/A	Attainment/Unclassified
	1 Hour	0.25 ppm (655 μg/m³)	Attainment	75 ppb (196 μg/m³)	N/A
	Annual Arithmetic Mean	N/A	N/A	0.30 ppm (for certain areas)	Attainment/Unclassified
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Unclassified		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 μg/m³)	Attainment		

μg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
6. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
7. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
8. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
9. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: San Joaquin Valley Air Pollution Control District, *Ambient Air Quality Standards & Valley Attainment Status*, https://www.valleyair.org/aqinfo/attainment.htm, accessed October 9, 2015.

State law recognized that air pollution does not respect political boundaries and therefore required CARB to divide the State into separate air basins, each of which has similar geographical and meteorological conditions. Additionally, many county agencies began to realize that air quality problems are best managed on a regional basis and began to combine their regulatory agencies into regional agencies. This was the case for the SJVAB, where until 1991 each county operated a local air pollution control district.

The SJVAPCD is one of 35 air quality management districts in the State that have prepared AQMPs to accomplish a five percent annual reduction in emissions. The SJVAPCD has prepared the *2013 Plan for the Revoked 1-Hour Ozone Standard* (2013 Ozone Plan) to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The SJVAPCD's 2013 Ozone Plan was approved by the District Governing Board on September 19, 2013. The 2013 Ozone Plan modeling confirms that the region will attain the revoked 1-hour ozone standard by 2017.

The SJVAPCD has also prepared the *2012 $PM_{2.5}$ Plan* to establish their strategy for attaining the 2006 $PM_{2.5}$ NAAQS in improving air quality and public health in the SJVAB. The *2012 $PM_{2.5}$ Plan* utilizes a comprehensive strategy that includes strengthening regulations for several SJVAPCD industries, providing incentive programs and outreach efforts to involve the general public, and using technological advancement efforts and policy and legislative efforts to further address reducing emissions of $PM_{2.5}$ and NO_X. The *2012 $PM_{2.5}$ Plan* estimates that SJVAPCD will achieve attainment of the federal $PM_{2.5}$ standard by 2019.

In addition to the 2013 Ozone Plan and the *2012 $PM_{2.5}$ Plan,* the SJVAPCD prepared the *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI provides lead agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality in environmental documents. This document describes the criteria that the SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The latest GAMAQI was adopted by the SJVAPCD on March 19, 2015.

All of the above-referenced plans include measures (i.e. federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation Control Measures (TCMs) are part of these plans.

Regional Air Quality Improvement

The rules, programs, and regulatory actions that have been developed by the SJVAPCD from the 1970s through the 1990s have resulted in dramatic improvement in overall SJVAB air quality with respect to all of the State and Federal non-attainment criteria pollutants. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the SJVAB. As discussed above, the SJVAPCD is the lead agency charged with regulating air quality emission reductions for the entire SJVAB. The SJVAPCD monitors levels of various criteria pollutants at 34 monitoring stations throughout the air district. Air quality in the SJVAB shows a continuing trend of improvement over the long term.

CURRENT EMISSIONS TRENDS

Ozone. Ozone levels in the San Joaquin Valley used to be among the most severe in the State. For example, in the 1980s the Valley averaged nearly 60 federal 1-hour exceedance days per year. Nonetheless, ozone concentration within the SJVAB has experienced vast improvement over the last few decades due to implementation of widespread control programs targeting stationary and mobile sources. Compared with 1990, ozone concentrations are about 17 percent lower throughout the SJVAB. Therefore, the SJVAB is seen to have a downward trend of reducing its ozone emissions as a result of its uniform regulatory programs. Importantly, this trend in improvement in ozone air quality throughout the past several decades has also corresponded with tremendous population growth in the SJVAB. Since the 1970s, population growth in the SJVAB has grown over 200 percent from 1,637,877 in 1970 to 4,069,986 in 2013.

Additionally, the number of days people are exposed to unhealthy ozone levels has dropped by 32 percent. Today, nearly 16 percent of the population lives in areas that meet the 8-hour ozone standard, compared with 20 years ago when the standard was exceeded throughout the Valley. A continued implementation of emissions control throughout the SJVAB would aid in further improving and achieving attainment goals.

Nitrogen Oxides (NO_X). The San Joaquin Valley has attained the national NO_2 standard for more than 20 years. The 1-hour design value continues to be below the level of the standard and has decreased by 41 percent since 1992. After the introduction of NO_X emissions standards and the catalytic converter within motor vehicles, NO_X emissions have decreased throughout. NO_X emissions within the SJVAB are driven by motor vehicles. Further decreases in NO_X emissions are projected throughout the SJVAB. This can be attributed to more stringent emissions standards within vehicles and the use of cleaner burning fuel such as diesel, natural gas, or other forms of alternative fuels.

Volatile Organic Compounds (VOCs). With implementation of regulations such as the State's on-road motor vehicle emission control program, VOC emissions from motor vehicles are expected to be reduced. Additionally, adoption of more stringent standards of mobile vehicles, increased efficiencies in reducing area wide sources through vapor recovery programs within service stations and other fuel operations, and reduced emissions within solvents would lead to overall reduction in VOCs by year 2035.

Particulate Matter (PM). The Valley is affected by two different PM problems: (1) secondary PM in the winter and (2) primary PM in the fall. More exceedances of the PM standards occur in the winter than the fall, with the highest exceedances occurring in urban areas. While fewer exceedances occur in the fall, they are usually the most severe and at the highest levels. Emission trends over the past ten years for $PM_{2.5}$ indicate an overall decrease of emissions between 1999 and 2011.

It should be noted that the SJVAB's improvements in the air quality described above have occurred while growth in the same region has increased during the same period. The improvement of air quality despite growth in the region is due to the implementation of various SJVAPCD rules, regulations, and other programs, as well as improvements in stationary and mobile source emissions technology.

CITY OF MCFARLAND

McFarland General Plan

The McFarland General Plan does not contain goals, objectives, or policies specific to air quality emissions. However, the General Plan does include objectives and policies that support transit-oriented development and placing residential uses in proximity to commercial and employment uses that would reduce vehicle miles traveled, contributing to improved air quality.

5.5.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

THRESHOLDS OF SIGNIFICANCE

SJVAPCD Thresholds

For the purposes of this air quality analysis, actions that violate Federal standards for criteria pollutants (i.e., primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors and secondary standards designed to safeguard human welfare) are considered significant impacts. State and regional standards have been developed to ensure that Federal and national ambient air quality standards are achieved. Thus, actions that violate State standards developed by CARB or criteria developed by the SJVAPCD, including thresholds for criteria pollutants, are considered significant impacts.

As described above, the SJVAPCD adopted the latest GAMAQI on March 19, 2015. The 2015 GAMAQI represents the latest guidance for addressing air quality impacts in the Basin and is utilized for this analysis. Comments received and potential changes to the GAMAQI are primarily administrative in nature to update air basin information, attainment status, and general guidance to reflect updated conditions.

REGIONAL SIGNIFICANCE THRESHOLDS

The SJVAPCD requires the analysis of ROG, NO_X, PM_{10}, $PM_{2.5}$, and CO. Projects that would generate 10 tons per year of either ROG or NO_X are considered to have a potentially significant air quality impact. The SJVAPCD has also established a threshold of 15 tons per year for PM_{10} and $PM_{2.5}$ and a threshold of 100 tons per year of CO. As previously mentioned, the Basin is classified as a nonattainment area for ozone. In order to achieve the Federal and State standards for ozone, it is necessary to regulate ROG and NO_X, which contribute to the formation of ozone. This includes both direct and indirect emissions. Table 5.5-3, SJVAPCD *Thresholds of Significance*, lists SJVAPCD's regional construction and operational significance thresholds.

In addition to the tons per year thresholds cited above, the SJVAPCD has thresholds applicable to CO emissions that require projects to perform localized CO modeling. These thresholds include the following:

- Project traffic would impact intersections or roadway links operating at level of service (LOS) D, E, or F or would cause LOS to decline to D, E, or F.
- Project traffic would increase traffic volumes on nearby roadways by 10 percent or more.

- Project would contribute to CO concentrations exceeding CAAQS of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for one hour.

Table 5.5-3
SJVAPCD Thresholds of Significance

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
CO	100	100	100
NO_x	10	10	10
ROG	10	10	10
SO_x	27	27	27
PM_{10}	15	15	15
$PM_{2.5}$	15	15	15

Source: San Joaquin Valley Air Pollution Control District, *Draft Guidance for Assessing and Mitigating Air Quality Impacts,* March 19, 2015.

ODOR THRESHOLDS

Land uses that are associated with odor complaints typically include sensitive receptors, such as residential areas, hospitals, day-care centers, schools, etc., and other places where people gather (e.g., recreational facilities, worksites, and commercial areas). While odors rarely create any physical impacts, they can be unpleasant to the public and citizens who consequently file complaints to local governments and the SJVAPCD. The SJVAPCD uses a threshold based on the distance of the odor source from people and complaint records for a facility or similar facility. The threshold would be more than one confirmed complaint per year averaged over a three-year period, or three unconfirmed complaints per year averaged over a three-year period.

CEQA Significance Criteria

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan; refer to Impact Statement AQ-3.

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation; refer to Impact Statement AQ-1 and AQ-2.

- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors); refer to Impact Statement AQ-1 and AQ-2.

- Expose sensitive receptors to substantial pollutant concentrations; refer to Impact Statement AQ-2.

- Create objectionable odors affecting a substantial number of people; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these standards/criteria, the project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards, or mitigation, it is categorized as a "significant and unavoidable impact." The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.5.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION AIR EMISSIONS

AQ-1 SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis: The proposed project anticipates new development of 4,850 dwelling units, and 24.8 million square feet (sf) of non-residential uses that could occur within the project area, the construction of which would generate short-term air quality impacts from the following activities.

Fugitive Dust. Construction activities are a source of fugitive dust (PM_{10} and $PM_{2.5}$) emissions that may have a substantial, temporary impact on local air quality. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust (PM_{10}) poses a serious health hazard alone or in combination with other pollutants. Fine Particulate Matter ($PM_{2.5}$) is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Exhaust. Exhaust emissions would be generated by the operation of vehicles and equipment on future construction sites, such as tractors, dozers, scrapers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower CO and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_X, SO_X, and particulates per hour of activity. The transportation of equipment and materials to and from project sites, as well as construction workers traveling to and from the sites would also generate vehicle emissions during construction.

Grading/Hauling. Depending on the amount of over-excavation and re-compaction that may be necessary to create a suitable building pad, future development facilitated by the proposed

project may require the import/export of fill material. Although these activities may create additional dust and PM_{10} and $PM_{2.5}$, as well as truck-related emissions, they would be mitigated to less than significant levels through implementation of standard dust control practices required as part of the grading permit (periodic site watering, covering laden trucks with tarps, and periodic street sweeping).

Asbestos. It is possible that asbestos-containing materials may be present within existing buildings that may be modified or demolished within the project area in the future. Therefore, the possibility exists that asbestos fibers may be released into the air should no asbestos assessment or removal (if needed) take place prior to demolition. Standard practice would be to conduct an asbestos assessment for candidate buildings to determine the presence of asbestos, in compliance with the SJVACPD's Asbestos Requirements for Demolitions and Renovations.[2] If identified, an asbestos abatement contractor would be retained to develop an abatement plan and remove the asbestos containing materials, in accordance with local, State, and Federal requirements. After removal, demolition may proceed without significant concern to the release of asbestos fibers into the air.

Naturally Occurring Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, Lead Agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains and Coast Ranges. According to the *General Location Guide for Ultramafic Rock in California – Areas More Likely to Contain Naturally Occurring Asbestos* serpentinite and ultramafic rocks are not known to occur within the project area and thus there is no potential that the project would disturb naturally occurring asbestos.

Conclusion

Construction-related air quality impacts would be short-term and temporary, lasting only as long as the construction phase of each future development project (which are not known at this time). Nonetheless, construction impacts have the potential to violate Federal and State ambient air quality standards and may harm nearby sensitive receptors. It is assumed that some of the future development projects within the project area could individually exceed the SJVAPCD thresholds based on the magnitude of development. Adherence to SJVAPCD Regulation VIII, Fugitive PM_{10} Prohibitions, would reduce fugitive dust emissions generated at future construction sites by requiring dust abatement measures, such as watering disturbed and unpaved roadway areas, install trackout control devices, and wheel washers, among others. The SJVAPCD considers construction-related emissions from all projects in this region to be

[2] San Joaquin Valley Air Pollution Control District, *Asbestos Requirements for Demolitions and Renovations*, http://www.valleyair.org/busind/comply/asbestosbultn.htm, accessed October 12, 2015.

mitigated to a less-than significant level if SJVAPCD-recommended PM_{10} fugitive dust rules (Regulation VIII) are implemented.

The SJVAPCD Indirect Source Review (ISR) Rule (Rule 9510) applies to construction of the project. Rule 9510 is the result of State requirements outlined in the State Implementation Plan (SIP). The SJVAPCD's SIP commitments are contained within the EPA approved *PM_{10} Attainment Demonstration Plan,* and 2013 Ozone Plan, which identify the need to reduce PM_{10} and NO_x emissions associated with development projects in the Basin. These attainment plans identify growth and reductions in multiple source categories. The plans quantify the reduction from current District rules and proposed rules, as well as state and federal regulations, and then model future emissions to determine if the SJVAPCD may reach attainment for applicable pollutants. The PM_{10} and Ozone plans have determined that Rule 9510, in addition to existing and future rules and conditions, will help clean the Valley's air and reach attainment. Between years 2012 to 2013, ISR Rule 9510 applications increased by 10 percent while the amount of off-site mitigation fees collected under the ISR program decreased by 33 percent compared to the previous period. The factors leading toward a reduction of off-site fees collected through the implementation of ISR indicate that project proponents are more frequently using clean construction fleets and are incorporating more and better project design elements resulting in overall lower-emitting development projects. Some of the decrease is also caused by project proponents deferring payment of the off-site mitigation fees until the project is ready to move into the construction phase, as allowed by the rule.[3]

Each applicant for future developments within the project area would be required, to the extent the specific development at issue is subject to Rule 9510, to prepare a detailed air impact assessment (AIA). To the extent applicable under Rule 9510 for each such individual development, the SJVAPCD would require calculation of the construction and operational emissions from the development. The purpose of the AIA is to confirm a development's construction exhaust emissions, and therefore be able to identify appropriate mitigation, either through implementation of specific mitigation measures or payment of applicable offset fees. Under Rule 9510, each project that is subject to this Rule would be required to reduce construction exhaust emissions by 20 percent for NO_X and 45 percent for PM_{10} or pay offset mitigation fees for emissions that do not achieve the mitigation requirements. Offset fees would be calculated in accordance with the procedures identified in the Rule 9510 and approved by the SJVAPCD. For projects subject to District Rule 9510 (i.e., projects that exceed the SJVAPCD's thresholds and large development projects as defined Section 2.1 of SJVAPCD Rule 9510), the SJVAPCD recommends that demonstration of compliance with District Rule 9510, including payment of all applicable fees before issuance of the first building permit, be made a condition of project approval. All future construction projects within the project area would be subject to compliance with Rule 9510, and would be reviewed for consistency with all SJVAPCD rules and regulations on a case-by-case basis. Compliance with SJVAPCD Rules VIII and 9510 would result in a less than significant impact.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

[3] San Joaquin Valley Air Pollution Control District, *2013 Annual Report on the District's Indirect Source Review Program*, December 19, 2013.

Level of Significance: Less Than Significant Impact.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

AQ-2 POTENTIAL DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT IMPACTS PERTAINING TO OPERATIONAL AIR EMISSIONS.

Mobile Sources

Mobile source emissions are emissions from vehicle trips that are generated by the operation of a project. Mobile source emissions include tailpipe and evaporative emissions. Mobile source emissions are anticipated to be the largest contributor to the estimated annual average air pollutant levels from the project. Buildout of the project area that may occur with implementation of the project could generate approximately 172,022 net average daily trips (ADT).[4] The net project-related vehicle emissions associated with buildout of the project area have been estimated using the California Emissions Estimator Model (CalEEMod). This model predicts ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions from motor vehicle traffic associated with new or modified land uses. Table 5.5-4, *Long-Term Operational Air Emissions*, presents the anticipated net mobile source emissions.

Table 5.5-4
Long-Term Operational Air Emissions

Emissions Source	Pollutant (tons/year)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	178.73	2.46	161.215	0.41	20.65	20.65
Energy	4.29	38.61	30.00	0.23	2.96	2.96
Mobile	218.83	926.21	2,594.95	4.16	210.35	64.93
Total Proposed Emissions	***401.85***	***967.28***	***2786.165***	***4.8***	***233.96***	***88.54***
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Is Threshold Exceeded? (Significant Impact?)	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***

Notes:
1. Based on CalEEMod results, and average daily trips provided in the *McFarland General Plan Amendment Traffic Impact Analysis* (prepared by Michael Baker International, Inc., dated August 26, 2015).
2. Refer to Appendix C, *Air Quality/Greenhouse Gas Emissions Data*, for assumptions used in this analysis.

Stationary Sources

Stationary source emissions would be generated as a result of an increased demand for electrical energy and natural gas associated with implementation of the proposed project. This assumption is based on the supposition that those power plants supplying electricity to the site are utilizing fossil fuels. Electric power generating plants are distributed throughout the SJVAB and western United States, and their emissions contribute to the total regional pollutant burden. The primary use of natural gas by the proposed land uses would be for combustion to produce

[4] Michael Baker International, Inc., *McFarland General Plan Amendment Traffic Impact Analysis*, August 26, 2015.

space heating, water heating, other miscellaneous heating, or air conditioning, consumer products, and landscaping.

As shown in Table 5.5-4, the net emissions generated by mobile, area, and energy sources associated with implementation of the project (allowing for approximately 4,850 dwelling units and 24.8 million sf of non-residential uses) would exceed established SJVAPCD thresholds for ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$. The GPA includes objectives and policies that support transit oriented development and mixed-use development, allowing for commercial and employment uses in proximity to residential uses, which would contribute to reduced vehicles miles traveled and a reduction in mobile source emissions. Additionally, employment-generating land uses would increase opportunities for residents to work within the community, avoiding the need to travel outside of the area for work. Thus, mobile source emissions would be reduced with implementation of the General Plan objectives and policies. However, due to the increased development potential and associated emissions, impacts would be significant and unavoidable.

Localized CO Hotspots

Carbon monoxide (CO) emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). As described above, the SJVAPCD requires CO "hotspot" modeling for projects that reduce the LOS operations on surrounding roadways to an E or an F, or worsens traffic along roadways that are already operating at an LOS F. According to the *McFarland General Plan Amendment Traffic Impact Analysis* (prepared by Michael Baker International, Inc., dated August 26, 2015), there are no roadway intersections in the project area that would operate at LOS E or F under General Plan Buildout With Project conditions. In addition, there are no existing roadway intersections that currently operate at LOS F where the project would worsen traffic conditions. Therefore, a CO hotspot analysis is not warranted, and a less than significant impact would occur in this regard.

Health Effects – Toxic Air Contaminants

The proposed project is located within the City of McFarland and the City's SOI, and is traversed by SR-99 and a railroad trending in a north-south direction. According to the CARB *Air Quality and Land Use Handbook* (April 2005), the following are sources that warrant special consideration with regard to TACs:

- Freeways and High Traffic Roadways;
- Distribution Centers (100 trucks per day/40 trucks with TRUs per day);
- Rail Yards;
- Refineries;
- Chrome Plating Facilities;
- Dry Cleaners; and
- Large Gasoline Dispensing Facilities (3.6 million gallon/year throughput).

Other sources that warrant consideration in close proximity to sensitive receptors include projects with diesel engines:

- Large Commercial Projects with Loading Docks (3 or more deliveries per day);
- Recycling Centers using Diesel Equipment for Loading and Crushing Operations;

- Hospitals with multiple Emergency Diesel Engines; and
- Other Facilities with Multiple Idling Trucks.

The proximity to SR-99 and the railroad rights-of-ways poses a concern for potential exposure of future development to TACs from these sources. The CARB *Air Quality and Land Use Handbook* (April 2005), recommends avoiding siting new sensitive land uses within 500 feet of a freeway. The proposed project includes land to the west of SR-99 that would be designated as Mixed-Use, which allows for residential uses. Therefore, sensitive uses that could be located within 500 feet of SR-99 would be required to include mechanical ventilation systems with fresh air filtration as required by Mitigation Measure AQ-1. Mitigation Measure AQ-2 requires similar standards for sensitive receptors that would be located within 1,000 of a distribution center/warehouse facility. With implementation of Mitigation Measures AQ-1 and AQ-2, air toxic impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.

Policy G1.2: Establish land use policies that encourage a balance of jobs and housing.

Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings.

Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas.

Policy G1.5: Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.

Objective G3: Discourage leapfrog and sprawl development.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Objective G6: Provide and encourage opportunities for Mixed Use and Transit-Oriented Development.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.2: Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.
d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R.3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Policy C1.17: Focus commercial retail centers adjacent to major transportation corridors.

Policy C1.18: Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

<u>Project Mitigation Measures</u>:

AQ-1 A project-specific Health Risk Assessment shall be required for new sensitive land uses such as residences, hospitals, and schools located within 500 feet of the SR-99 freeway right-of-way, pursuant to the recommendations set forth in the CARB *Air*

Quality and Land Use Handbook. The Health Risk Assessment shall evaluate a project per the thresholds established in the most recent version of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* document (i.e., carcinogenic risk equals or exceeds 10 in one million; acute non-carcinogenic hazard index equals or exceeds one; and/or if chronic non-carcinogenic hazard index equals or exceeds one). If projects are found to exceed the SJVAPCD's Health Risk Assessment thresholds, mitigation shall be incorporated. Mitigation measures may include mechanical ventilation systems with Minimum Efficiency Reporting Value rated filtration.

AQ-2 New sensitive land uses such as residences, hospitals, and schools shall not be located closer than 1,000 feet from any existing or proposed distribution center/warehouse facility which generates a minimum of 100 heavy truck trips per day, or 40 truck trips with transport refrigeration units (TRUs) per day, or TRU operations exceeding 300 hours per week, pursuant to the recommendations set forth in the CARB *Air Quality and Land Use Handbook*. If new sensitive land uses cannot meet this setback, a project-specific Health Risk Assessment shall be prepared. The Health Risk Assessment shall evaluate a project for the thresholds established in the most recent version of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* document (i.e., carcinogenic risk equals or exceeds 10 in one million; acute non-carcinogenic hazard index equals or exceeds one; and/or if chronic non-carcinogenic hazard index equals or exceeds one). If projects are found to exceed the SJVAPCD's Health Risk Assessment thresholds, mitigation shall be incorporated. Mitigation measures may include mechanical ventilation systems with Minimum Efficiency Reporting Value rated filtration.

Level of Significance: Significant and Unavoidable Impact.

CONSISTENCY WITH AIR QUALITY MANAGEMENT PLAN

AQ-3 IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH THE AIR QUALITY MANAGEMENT PLAN.

Impact Analysis: Air quality conformity refers to the process whereby transportation plans, programs and projects conform to the requirements of applicable general plans and regional plans. Regional plans that apply to the project include the SJVAPCD Air Quality Attainment Plans (AQAPs) for O_3 and $PM_{2.5}$, which are part of the State Implementation Plan (SIP).

The California Clean Air Act (CCAA) requires non-attainment districts with severe to extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year. The AQAPs for O_3, and $PM_{2.5}$ prepared for the SJVAB by the SJVAPCD fulfills this requirement. Banked emission reduction credits are included in the emissions inventories for the AQAP and provide an additional means to attaining the required five percent reduction in these inventories per year.

Air quality conformity to an implementation plan as required in the CCAA Section 176(c) is defined as: "Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities would not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of

any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

If a project is found to interfere with the region's ability to comply with Federal and State air quality standards, local governments then need to consider project modifications or provide mitigation measures to eliminate the inconsistency of the project plans. In order for a project to be considered "consistent" with the latest AQAP, the project must be consistent with the goals, objectives, and assumptions in the respective plan to achieve the Federal and State air quality standards.

The project is intended to meet the General Plan goals, objectives, policies, and actions related to the planned growth within the SOI, providing a diversity of housing types, establishing a well-balanced mix of land uses, and providing jobs within close proximity to residents. The amount of new residential growth (maximum of 4,850 residential dwelling units) and nonresidential uses (i.e., approximately 24.8 million sf of commercial, highway commercial, office, mixed-use, light industrial, heavy industrial, and public and institutional uses) facilitated by the project would be within the range of development planned for in the City's General Plan. In addition, Table 5.2-9 in Section 5.2, *Population, Housing, and Employment,* compares the proposed project's household, population, and employment projections for the City with Kern COG's 2040 forecasts. As indicated in Table 5.2-9, the proposed project is forecast to result in 4,704 households (4,849 dwelling units), with a resultant population of approximately 21,168 persons. Kern COG forecasts the City would grow to 3,500 households by 2040 (an extrapolated 3,608 dwelling units), with a resultant population of approximately 20,800 persons. Comparatively, the proposed project's household, population, and employment forecasts are more than Kern COG's 2040 forecasts. However, an update to Kern COG's RTP is required every four to five years, and the project would be included into the next RTP's future growth forecasts. As such, the project would be consistent with the population and growth projections associated with the City's General Plan and Kern COG RTP.

However, as described in the SJVAPCD GAMAQI, "…projects with emissions below the thresholds of significance for criteria pollutants would be determined to 'Not conflict or obstruct implementation of the District's air quality plan.'" As indicated in the long-term operational emissions discussion above, buildout of the project area would result in exceedances of SJVAPCD thresholds for criteria pollutants. As such, the project would generate emissions that would not be consistent with SJVAPCD 2013 Ozone Plan and the *2012 $PM_{2.5}$ Plan*, and impacts would be significant and unavoidable.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation measures have been identified.

Level of Significance: Significant and Unavoidable Impact.

5.5.5 CUMULATIVE IMPACTS

AQ-4 POTENTIAL DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT COULD IMPACT EXISTING REGIONAL AIR QUALITY LEVELS ON A CUMULATIVE BASIS.

Impact Analysis: According to the SJVAPCD GAMAQI, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. If a project impact is individually less than significant, the impacts of the surrounding past, present and future projects must be taken into account. The thresholds of significance for cumulative impacts are the same as those for the project related impacts used in this analysis.

Cumulative Short-Term Construction

Future construction activities as a result of the project would result in substantial construction activities that could potentially exceed the SJVAPCD emissions thresholds, which could result in a significant contribution to emissions on a cumulative basis. Even with implementation of mitigation measures, cumulative construction-related emissions would likely still be significant. Although project-specific details (i.e., timing and amount of construction occurring concurrently) are unknown at this time, due to the amount of potential development, significant and unavoidable cumulative construction impacts would occur.

Cumulative Long-Term Operational Impacts

With regard to daily operational emissions and the cumulative net increase of any criteria pollutant for which the region is nonattainment, this is considered to be a potentially significant cumulative impact, due to nonattainment of O_3 (eight hour), PM_{10} (State), and $PM_{2.5}$ (both Federal and State) standards in the SJVAB. Future net development of the 4,850 dwelling units and 24.8 million square feet of nonresidential uses, combined with other anticipated future development in the region would contribute to a cumulative annual increase in regional air pollutant emissions. As previously stated, the emissions from future development as a result of the project would likely exceed the SJVAPCD operational thresholds. In accordance with SJVAPCD methodology, any project that cannot be mitigated to a level of less than significant is also significant on a cumulative basis. Therefore, the cumulative operational emissions associated with the proposed project are significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures AQ-1 and AQ-2.

Level of Significance: Significant and Unavoidable Impact.

5.5.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Project implementation would result in significant unavoidable operational and cumulative air quality impacts under future buildout conditions. If the City of McFarland approves the proposed project, the City shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with Section 15093 of CEQA.

Section 5.6
Greenhouse Gas Emissions

5.6 GREENHOUSE GAS EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section. GHG technical data is included as Appendix C, *Air Quality/Greenhouse Gas Emissions Data*.

5.6.1 EXISTING SETTING

The project area lies within the southern portion of the San Joaquin Valley Air Basin (SJVAB). The SJVAB is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern County (where the project and City of McFarland are located). The overall climate in the SJVAB is warm and semi-arid. The San Joaquin Valley (Valley) is in a Mediterranean Climate Zone. Mediterranean Climate Zones occur on the west coast of continents at 30 to 40 degrees latitude and are influenced by a subtropical high-pressure area most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in the winter. There is only one wet season during the year and 90 percent of the precipitation falls during October through April. Snow in the Valley is infrequent and thunderstorms seldom occur. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the Valley.

SCOPE OF ANALYSIS FOR CLIMATE CHANGE

The study area for climate change and the analysis of GHG emissions is broad as climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines Section 15064(d], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact which may be caused by the project.

The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis for this project relies on guidelines, analyses, policy, and plans for reducing GHG emissions established by the California Air Resources Board (CARB).

This analysis also cites and relies on local air quality management district recommendations from the San Joaquin Valley Air Pollution Control District (SJVAPCD) for CEQA assessments of GHG emissions.

GREENHOUSE GAS EMISSIONS

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[1] The greenhouse effect traps heat in the troposphere through a threefold process as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit it into space and toward the Earth. This "trapping" of

[1] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation. Typical GHGs include the following:[2]

- *Water Vapor (H_2O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

  The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.

- *Carbon Dioxide (CO_2)*. Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO_2 emissions from fossil fuel combustion increased by 8.8 percent between 1990 and 2013.[3] Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.

- *Methane (CH_4)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

- *Nitrous Oxide (N_2O)*. Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.

- *Hydrofluorocarbons (HFCs)*. HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.[4]

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[2] All Global Warming Potentials are given as 100-year Global Warming Potential. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

[3] U.S. Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2013*, April 2015.

[4] U.S. Environmental Protection Agency, *Greenhouse Gas Emissions*, September 9, 2013. http://www.epa.gov/climatechange/ghgemissions/gases/fgases.html#Trends, accessed on October 12, 2015.

- *Perfluorocarbons (PFCs).* PFCs are compounds produced as a by-product of various industrial processes associated with aluminum production and the manufacturing of semiconductors. Like HFCs, PFCs generally have long atmospheric lifetimes and high Global Warming Potentials of approximately 6,500 and 9,200.[5]

- *Sulfur hexafluoride (SF_6).* Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change (IPCC) with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).[6]

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- *Hydrochlorofluorocarbons (HCFCs).* HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWPs of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[7]

- *1,1,1 trichloroethane.* 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of carbon dioxide.[8]

- *Chlorofluorocarbons (CFCs).* CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (EPA) Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWPs ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[9]

5.6.2 REGULATORY SETTING

Regulatory oversight for air quality in the SJVAB rests at the regional level with the SJVAPCD, CARB at the State level, and the EPA Region IX office at the Federal level.

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[5] Ibid.
[6] Ibid.
[7] U.S. Environmental Protection Agency, *Stratospheric Ozone Protection and Climate Change*, dated August 19, 2010, http://www.epa.gov/ozone/climate.html, accessed on October 12, 2015.
[8] Ibid.
[9] U.S. Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. http://www.epa.gov/ozone/ods.html, accessed on October 12, 2015.

FEDERAL

The federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations framework convention on climate change (UNFCCC) and the IPCC.

In 1988, the United Nations and the world meteorological organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In December 2007, congress passed the first increase in corporate average fleet fuel economy (CAFE) standards. The new cafe standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama administration announced that for the 2011 model year, the standard for cars and light trucks would be 27.3 mpg, the standard for cars would be 30.2 mpg; and standard for trucks would be 24.1 mpg. Additionally, in May 2009 President Barack Obama announced plans for a national fuel-economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

Currently, the EPA is moving forward with two key climate change regulatory proposals, one to establish a mandatory GHG reporting system. Under the federal clean air act, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation. However, as of the date of this study there are no federal regulations or policies regarding GHG emissions applicable to the project.

STATE

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring, and that there is a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation would be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary would also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This would result in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-20-04. Executive Order S-20-04, the California Green Building Initiative, (signed into law on December 14, 2004), establishes a goal of reducing energy use in State-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

Executive Order S-21-09. Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on

statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State."

To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards would result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards would result in a reduction of about 30 percent.

Assembly Bill 3018. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC would develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill would ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in *CEQA Guidelines* Section 15064.7 that would encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the *CEQA Guidelines* Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the *CEQA Guidelines* Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The *CEQA Guidelines* Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that would prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, would provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets would be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets.

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

Carb Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California would implement to reduce CO_2eq[10] emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO_2eq under a business as usual (BAU)[11] scenario. This is a reduction of 42 million MT CO_2eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in

[10] Carbon Dioxide Equivalent (CO_2eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

[11] "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See http://www.arb.ca.gov/cc/inventory/data/forecast.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

California Code of Regulations Title 24

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2013 standards are the most recent version which went into effect in January 1, 2014.

CCR Title 24, Part 11 (California's Green Building Standard Code) (CALGreen) was adopted in 2010 and went into effect January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The Mandatory provisions in CALGreen will reduce the use of volatile organic compound (VOC) emitting materials, strengthen water conservation, and require construction waste recycling.

REGIONAL

San Joaquin Valley Air Pollution Control District

Under CEQA, the SJVAPCD is an expert commenting agency on air quality and GHG emissions within its jurisdiction or impacting its jurisdiction. The SJVAPCD adopted the *Climate Change Action Plan* in August 2008. The *Climate Change Action Plan* was developed to assist local land use agencies and businesses in complying with state requirements.

In December 2009, the SJVAPCD adopted their *Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects Under CEQA* (GHG Guidance) to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the SJVAB. This document provides SJVAPCD-recommended procedures for evaluating potential air quality and GHG impacts during the environmental review process consistent with CEQA requirements. The SJVAPCD GHG Guidance establishes standards that require projects to reduce their GHG emissions by at least 29 percent from BAU levels, through the application of Best Performance Standards (BPS) or other mitigation measures, to achieve a less than cumulatively significant impact under CEQA. To have a less than significant individual and cumulative impact on global climate change, projects must be determined to have reduced or mitigated GHG emissions by 29 percent, consistent with the GHG emission reduction targets established in CARB's AB 32 Scoping Plan.

Kern County Council of Governments Regional Transportation Plan/Sustainable Communities Strategy

The Kern Council of Governments (Kern COG) *2014 Regional Transportation Plan* (2014 RTP) (June 19, 2014), is a 26-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. The 2014 RTP includes a Sustainable Communities Strategy (SCS),

in compliance with SB 375, that reduces GHG emissions from passenger vehicles and light-duty trucks by five percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005.

CITY OF MCFARLAND

McFarland General Plan

The McFarland General Plan does not contain goals, objectives, and policies that specifically address GHG emissions. However, the City's Land Use Element provides goals, policies, and objectives that would indirectly aid in the reduction of GHG emissions within the City.

5.6.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA THRESHOLDS

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Based on these standards/criteria, the project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards or mitigation, it is categorized as a "significant and unavoidable impact." The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

SJVAPCD THRESHOLDS

The following excerpt is from the March 2015 draft version of the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The excerpt restates information from the guidance document: *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* adopted by the SJVAPCD Governing Board on December 17, 2009.

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected

resource and supported by a CEQA compliant environmental review document adopted by the lead agency.

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement Best Performance Standards (BPS).

- Projects implementing BPS would not require quantification of project specific GHG emissions. Such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

- Projects not implementing BPS would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in CARB's AB 32 Scoping Plan. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG.

- Notwithstanding any of the above provisions, projects requiring the preparation of an EIR for any other reason would require quantification of project specific GHG emissions. Projects implementing BPS or achieving at least a 29 percent GHG emission reduction would be determined to have a less than significant individual and cumulative impact for GHG.

5.6.4 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS

GHG-1 GREENHOUSE GAS EMISSIONS GENERATED BY THE PROPOSED PROJECT COULD HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT.

According to the SJVAPCD's process for evaluating GHG significance, this analysis quantifies the project's "business as usual" GHG emissions that would be expected to occur in the absence of GHG reduction measures. The "business as usual" direct and indirect GHG emissions that could occur as a result of implementation of the project have been calculated using the California Emissions Estimator Model (CalEEMod).

Direct Project-Related Sources of Greenhouse Gases

Implementation of the proposed project would result in increased GHG emissions; largely due to increased vehicle miles traveled (VMT), as well as from construction activities, area sources, energy consumption, water supply, and solid waste generation. Increased GHG emissions could contribute to global climate change patterns and the adverse global environmental effects thereof. GHG emissions associated with future developments include CO_2, N_2O, and CH_4. Direct project-related GHG emissions for proposed "business as usual" conditions include emissions from area and mobile sources. Table 5.6-1, *Business As Usual Greenhouse Gas Emissions*, presents the estimated CO_2, N_2O, and CH_4 emissions.

Table 5.6-1
Business As Usual Greenhouse Gas Emissions

Emissions Source	Pollutant					
	CO_2	CH_4		N_2O		Total Metric Tons of CO_2eq[3]
	Metric Tons/yr[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	
Area	4,878.78	12.81	320.00	0.04	11.90	5,223.53
Mobile	347,787.83	9.92	246.00	0.00	0.00	348,043.75
Energy	127,483.33	4.66	117.00	1.57	468.00	128,074.56
Solid Waste	6,856.79	405.22	10,131	0.00	0.00	17,393.01
Water Demand	10,630.94	170.89	4,272	4.11	1,225	16,302.94
Total	497,637.67	603.50	15,086.00	5.72	1,704.90	515,037.79
Total Business As Usual Emissions	***515,037.79 MTCO$_2$eq/year***					

Notes:
1. Emissions based on CalEEMod results, and average daily trips provided in the *McFarland General Plan Amendment Traffic Impact Analysis* (prepared by Michael Baker International, Inc., dated August 26, 2015).
2. CO_2 Equivalent values calculated using the U.S. EPA Website, *Greenhouse Gas Equivalencies Calculator*, http://www2.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed October 2015.
3. Totals may be slightly off due to rounding.

Refer to Appendix C, *Air Quality/Greenhouse Gas Emissions Data*, for assumptions used in this analysis.

CalEEMod outputs contained within Appendix C, *Air Quality/Greenhouse Gas Emissions Data*, were used to calculate the following area and mobile source GHG emissions.

- *Area Source*. Emissions from direct area sources would result in approximately 5,223.53 MTCO2eq/year; refer to Table 5.6-1.

- *Mobile Source*. CalEEMod relies upon trip data within the Traffic Impact Analysis and project specific land use data to calculate mobile source emissions. The project would directly result in approximately 348,043.75 MTCO2eq/year of mobile source-generated GHG emissions; refer to Table 5.6-1.

Operational GHG estimations are based on energy emissions from natural gas usage and automobile emissions. CalEEMod relies upon project specific land use data to calculate operational emissions; refer to Appendix C.

Indirect Project-Related Sources of Greenhouse Gases

Indirect GHG emissions typically occur from energy generation from the consumption of electricity, water delivery and treatment systems, as well as CH_4 generated during solid waste decomposition. These emissions are referred to as indirect because they can occur at other locations, such as power plants, and do not typically occur at the project site. Indirect sources of GHG emissions generated by the project would include energy consumption, solid waste, and water demand.

- *Energy Consumption.* Energy consumption emissions were calculated using the CalEEMod model and project specific land use data. The project would indirectly result in approximately 128,074.56 $MTCO_2eq$/year of GHG emissions due to energy consumption; refer to Table 5.6-1.

- *Solid Waste.* GHG emissions from solid waste associated with project operations would result in approximately 17,393.01 $MTCO_2eq$/year; refer to Table 5.6-1.

- *Water Demand.* Emissions from indirect energy impacts due to water supply would result in approximately 16,302.94 $MTCO_2eq$/year; refer to Table 5.6-1.

Total Project-Related Sources of Greenhouse Gases. As shown in Table 5.6-1, the total amount of project-related "business as usual" GHG emissions from direct and indirect sources combined would total approximately 515,037.79 $MTCO_2eq$/year.

City of McFarland GHG Reduction Strategies

General Plan

Due to the amount of development that could occur in the planning area with implementation of the proposed project, it is anticipated that the sum of direct and indirect GHG emissions would conflict with the requirements of AB 32 to reduce statewide GHG emissions. However, the City's General Plan includes polices which inherently relate to the reduction of GHG emissions within the planning area. General Plan Objectives G1 and G3 promote a diverse mix of land uses, and discourage urban sprawl, respectively. The proposed project proposes to designate the City's SOI with a variety of land uses (Low Density Residential, Medium Density Residential, Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional) that would provide City residents ample access to a variety of housing types, local goods, services, and employment opportunities. The proposed project includes Mixed-Use land use designations that would be consistent with General Plan Policies G1, G3, and R4 (Encourage a mixture of densities). In addition, according to the *2010 United States Census Bureau* (2010 Census), the average travel time to work for residents in the City of McFarland is approximately 23.6 minutes. Buildout of the proposed project would provide employment opportunities for McFarland residents in close proximity to their residences, and thus, effectively reduce VMT and mobile GHG emissions compared to existing conditions.

The General Plan also includes objectives and policies pertaining to alternative modes of transportation, such as development standards to encourage bicycle use (Policies R3.1 through R3.3), and promoting solar use in new residential development (Objective R2, and Policy R2.1). Increased bicycle use within the planning area would help reduce VMT and mobile GHG emissions, and increased solar energy use would reduce energy-related GHG emissions.

Municipal Code

- *Chapter 15.30, Landscape Water Conservation.* The City's Landscape Water Conservation Ordinance applies to all new rehabilitated landscaping for public agency projects and private development projects that require a permit; and developer-installed landscaping in single-family and multiple-family projects. The Landscape Water Conservation Ordinance requires the project applicant to submit a landscape documentation package to the City, detailing the maximum applied water allowance,

estimated applied water use, estimated total water use, landscape design plan, irrigation design plan, irrigation schedules, maintenance schedules, grading plan design, soils, and proof of certification. The provisions of the Landscape Water Conservation Ordinance establish water conservation standards regarding landscaping for the City, which would indirectly reduce GHG emissions from water consumption. All future development within the project area would be required to comply with the Landscape Water Conservation Ordinance.

GHG Emissions Reductions from State of California Regulations

- *Mobile GHG Emissions.* On September 24, 2009, CARB adopted amendments to the "Pavley" regulations (Pavely I) that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. CARB's Low Emission Vehicle Program (LEV III) is a GHG reduction program that applies to vehicles sold between 2017 and 2025. These regulations provide ongoing improvement as older, less efficient vehicles are decommissioned, and new more efficient vehicles complying with the new standards are purchased. As a result, although mobile GHG emissions would increase under the proposed project (see Table 5.6-1), CARB's Pavley I and LEV III programs would reduce vehicle emissions greatly.

  The Low Carbon Fuel Standards (LCFS) mandates that a statewide goal to reduce the carbon intensity of California's transportation fuels by 10 percent is to be achieved by 2020. The LCFS is included in CARB's latest mobile source EMissions FACtors (EMFAC) inventory, and provides reductions for all vehicle classifications.

- *Energy GHG Emissions.* As noted above, the City's General Plan contains objectives and policies requiring new development to include solar energy in residential uses. In addition, the State of California has adopted energy conservation measures and programs to reduce GHG emissions.

  - *Title 24*. Title 24 reduces emissions through energy conservation in new and remodeled buildings. Title 24 requires a 25 percent reduction in residential energy consumption, and a 30 percent reduction in nonresidential energy consumption. Future development under the proposed project would be required to comply with all Title 24 standards.

  - *California Green Building Code Standards*. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The Mandatory provisions in CALGreen will reduce the use of volatile organic compound (VOC) emitting materials, strengthen water conservation, and require construction waste recycling. The project would be required to comply with all CALGreen standards for new development.

  - *Renewable Portfolio Standard*. Established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107 and expanded in 2011 under Senate Bill 2, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable

energy resources to 33 percent of total procurement by 2020. Pacific Gas and Electric Company (PG&E), the electric utility provider to the City, would be required to comply with the RPS. As such, buildout of the project would reduce GHG emissions from electricity consumption under the RPS.

- *Solid Waste Reduction*. Development within the project area would be required to comply with AB 939, which mandates recycling and composting services to reduce solid waste (i.e., divert/recycle solid waste generated by the project) by at least 50 percent. Kern County Waste Management has developed a variety of recycling programs to comply with AB 939 legislation. Effective recycling within the project area (in compliance with AB 939) would reduce energy use associated with the recycling process, while simultaneously reducing GHG emissions.

The City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to CEQA, as well as analysis of those projects for consistency with the goals, policies, and recommendations of the General Plan. In general, implementation of the policies in the General Plan, as well as compliance with Federal, State, and local regulations would avoid or reduce their incremental contribution to the significant worldwide increase in GHG emissions. However, for some projects it is possible that adherence to General Plan policies may not adequately avoid or reduce incremental impacts, and such projects would require additional mitigation measures. For each future discretionary project requiring mitigation (i.e., measures that go beyond what is required by existing programs, plans, and regulations), project specific measures would be identified with the goal of reducing incremental project level impacts to less than significant or the incremental contributions of a project may remain significant and unavoidable where no feasible mitigation exists. Where mitigation is determined necessary and feasible, these measures would be included in a Mitigation Monitoring and Reporting Program for the project. The measures may be updated, expanded, and refined when applied to specific future projects based on project specific design and changes in existing conditions, and local, State, and Federal laws.

Although implementation of General Plan policies would result in reduced GHG emissions, GHG reductions as a result of these policies have not been quantified. Currently, there are no specific development proposals associated with the proposed project. Therefore, the degree and extent of future project compliance with the General Plan policies and implementation measures is not yet known and the project details necessary to calculate emission reductions are not available at this time. In addition, due to the potential growth and associated GHG emissions from the project, and the unknown nature of future development projects within the project area, a significant and unavoidable impact would occur at this time. Future development within the project area would need to be analyzed on a project-by-project basis to determine the extent of each project's potential contribution to global climate change and appropriate mitigation measures specific to each project. Specifically, projects would be required to comply with the SJVAPCD GHG Guidance document's three-tiered policy approach in assessing project specific GHG emissions; refer to Mitigation Measure GHG-1. The SJVAPCD's GHG Guidance document establishes standards that require projects to reduce their GHG emissions by at least 29 percent from BAU levels, through the application of Best Performance Standards (BPS) or other mitigation measures, to achieve a less than significant individual and/or cumulatively significant impact under CEQA. However, due to the potential magnitude of buildout within the project area, it is unknown whether future development projects would comply with the SJVAPCD's GHG thresholds. As such, impacts are determined to be significant and unavoidable at this time, irrespective of implementation of Mitigation Measure GHG-1.

Mitigation Programs:

General Plan Objectives/Policies:

Objective G1: Establish a well-balanced mix of residential, commercial, industrial, and open space/public land which will create and maintain a high quality environment and a fiscally sound economy.

Policy G1.1: All development shall conform to the land use density and intensity standards depicted in the General Plan.

Policy G1.2: Establish land use policies that encourage a balance of jobs and housing.

Policy G1.3: Encourage human-scale urban design of neighborhoods, blocks and buildings.

Policy G1.4: Encourage active and inviting pedestrian-friendly street environments that include a variety of uses within commercial and mixed use areas.

Policy G1.5: Provide for the development of complementary land uses, such as open space, recreation, civic and service uses for all future residential and non-residential development.

Objective G3: Discourage leapfrog and sprawl development.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Objective G6: Provide and encourage opportunities for Mixed Use and Transit-Oriented Development.

Policy G6.1: Encourage integrated development that incorporates a mix of uses (residential, commercial, office) in mixed use or transit-oriented development areas.

Policy G6.2: Encourage workplace development in close proximity to residences in mixed use transit-oriented development areas.

Policy G6.3: Minimize the impacts of mixed-use or transit oriented development housing projects.

Policy G6.4: Design mixed uses or transit-oriented development projects to:

a. Create a pleasant walking environment to encourage pedestrian activity.
b. Create lively streetscapes, interesting urban spaces and attractive landscaping.
c. Provide convenient shopping opportunities residents close to their residences.

d. Integrate with surrounding uses to become a part of the neighborhood rather than an isolated project.

Policy G6.5: Encourage higher density residential, commercial and employment opportunities along major transportation routes and at other suitable locations.

Policy G6.6: Amend the Zoning Ordinance to implement mixed use zoning districts that provide development standards for mixed use development, which should address minimum density and intensity requirements; allowable uses; horizontal and/or vertical mix of uses, building heights and parking standards.

Policy G6.7: Evaluate mixed use projects to ensure that there is an adequate mix of uses on the site and in the area.

Objective R2: Provide for High Quality of Subdivision Design that supports solar energy.

Objective R3: Provide for High Quality of Subdivision Design that promotes pedestrian and bicycle access.

Policy R3.1: Subdivisions shall be designed so that a pedestrian/bicycle way is provided from the subject project to adjoining property designated as residential on the General Plan not greater than every 800 feet.

Policy R3.2: Subdivisions shall be designed so that pedestrian/bicycle access from the subdivision to adjoining major streets is provided not greater than every 800 feet, including corners of the project.

Policy R3.6: Encourage new neighborhoods to be built on a pedestrian scale, within walking distance of parks, neighborhood serving commercial areas and other neighborhood amenities.

Policy R.3.7: Discourage physical barriers, such as arterial streets, transit or utility rights-of-way, or very long blocks without through streets, between and within neighborhood and neighborhood centers. If physical barriers are unavoidable, provide safe crossings for pedestrians and cyclists.

Objective R4: Encourage a mixture of densities.

Policy C1.17: Focus commercial retail centers adjacent to major transportation corridors.

Policy C1.18: Promote commercial uses near residential neighborhoods that serve local residents and create neighborhood gathering places.

Policy C1.19: Work with property owners of vacant commercially zoned property to develop their sites into appropriate, economically viable projects.

Objective 5: Promote and improve access to public transit opportunities.

Policy 5-1: New projects and employment centers that employ more than 20 persons shall submit an Employee Transportation Plan. Said plan shall address promoting car/van pooling and access to public transit.

Policy 5-2: Arterial and Collector street designs shall include future pull-outs for bus stops.

Policy 5-3: The City shall coordinate with regional transportation agencies and providers regarding promotion and siting of stops and schedules.

Objective 7: Coordinate transit system development with community planning and development efforts, and land use policy.

Policy 7-1: Encourage new facilities that may impact local transit services to locate within the current service area.

Policy 7-2: Coordinate alternative commute programs with the private sector and other transit providers.

Project Mitigation Measures:

GHG-1 Future development projects within the project area subject to a discretionary action by the City (as a result of the proposed project) shall demonstrate compliance with the SJVAPCD's three-tiered GHG emissions reduction targets/measures outlined in the most recent *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI). Specifically, projects would be determined to have a less than significant individual and cumulative impact with regard to GHG emissions if one or more of the following SJVAPCD GHG emissions reduction targets is met:

- Comply with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the Leady Agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the Leady Agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement the SJVAPCD's Best Performance Standards (BPS).

- Implement the SJVAPCD's BPS. Implementation of the BPS would not require quantification of project specific GHG emissions. Use of BPS is a method of determining significance of project specific GHG emission impacts using established specifications or project design elements. BPS includes project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances.

- Projects not implementing BPS would require quantification of project specific GHG emissions and demonstration that project specific GHG emissions

would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period, consistent with GHG emission reduction targets established in CARB's AG 32 Scoping Plan.

Level of Significance: Significant and Unavoidable Impact.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

GHG-2 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.

Impact Analysis: The City of McFarland has not adopted a Climate Action Plan (CAP), GHG reduction plan, or any other related document related to reducing community-wide GHG emissions. However, as noted above, the SJVAPCD GAMAQI requires compliance with its three-tiered approach to reducing GHG emissions (based on the State's 2020 AB 32 reduction goals) (see Mitigation Measure GHG-1). As such, the project would be required to comply with the contents of the SJVAPCD GAMAQI and AB 32, which mandates the state's GHG emissions reduction targets for the future.

AB 32 mandates the state's GHG emissions reduction targets for the year 2020. CARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32. The Scoping Plan outlines a series of measures to reduce statewide GHG emissions. Some reductions would result from changes pertaining to vehicle emissions and mileage standards, while others would come from changes pertaining to sources of electricity and increased energy efficiency at existing facilities. The remainder would need to come from state and local plans, policies, or regulations that will lower carbon emissions, relative to business-as-usual conditions.

As shown Table 5.6-1, buildout of the project area would result in approximately 515,037.79 $MTCO_2eq$/year. As discussed above, the City of McFarland General Plan and Municipal Code include policies that would indirectly reduce operational GHG emissions from the project. Compliance with State-mandated programs/regulations (e.g., Title 24) would further aid in the reduction of operational GHG emissions from future development within the project area. These measures are consistent with strategies identified in the AB 32 Scoping Plan, as well as statewide goals to improve energy efficiency, reduce building energy consumption, and conserve natural resources. In addition, due to a diversity of land uses and employment opportunities in close proximity to City residents, the proposed project would effectively reduce community-wide VMT and GHG emissions at a regional scale (as McFarland residents are currently traveling 26.3 minutes to their workplace, on average).[12]

However, as the size, types, construction schedules, project features, etc., for future development as a result of the project are unknown at this time, it would be highly speculative to calculate GHG emissions reductions. As such, it is unknown whether the SJVAPCD GAMAQI's three-tiered GHG emissions reduction requirement would be achieved by the proposed project. Future development projects within the project area would be reviewed by the City for consistency with the requirements of the SJVAPCD GAMAQI on an individual basis (refer to Mitigation Measure GHG-1). However, due to the size and scope of potential buildout of the

[12] United States Department of Commerce, United States Census, *2010 Census*, http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF, accessed on October 23, 2015.

project area, and the potential for operational GHG emissions to exceed SJVAPCD thresholds, a significant and unavoidable impact would occur at this time.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure GHG-1.

Level of Significance: Significant and Unavoidable Impact.

5.6.5 CUMULATIVE IMPACTS

GHG-3 GREENHOUSE GAS EMISSIONS RESULTING FROM IMPLEMENTATION OF THE PROPOSED PROJECT AND RELATED DEVELOPMENT WITHIN THE CITY COULD IMPACT GREENHOUSE GAS LEVELS ON A CUMULATIVELY CONSIDERABLE BASIS.

Impact Analysis: As stated above, implementation of the proposed project would result in a significant impact regarding GHG emissions due to the amount of development that may occur within the project area. Additionally, the proposed project's GHGs in combination with GHG emissions from other known and reasonably foreseeable projects would result in a much greater amount of GHG emissions. Therefore, the amount of cumulative GHG emissions would be cumulatively considerable, and would potentially hinder the intent and statewide reduction goals of AB 32 and the SJVAPCD's GHG emissions reductions targets in the GAMAQI. Impacts in this regard would be significant and unavoidable.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure GHG-1.

Level of Significance: Significant and Unavoidable Impact.

5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Project implementation would result in significant unavoidable project related and cumulative GHG impacts. If the City of McFarland approves the proposed project, the City shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with Section 15093 of CEQA.

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Section 5.7
Noise

5.7 NOISE

The purpose of this section is to evaluate noise source impacts on-site and to surrounding land uses as a result of implementation of the proposed project. This section evaluates short-term construction-related impacts, as well as future buildout conditions. Mitigation measures are also recommended to avoid or lessen the project's noise impacts. Information in this section was obtained from the *Kern County General Plan* (County General Plan), *Kern County Municipal Code* (County Municipal Code), and *McFarland General Plan* (McFarland General Plan). For the purposes of mobile source noise modeling for the Plan Area, traffic information contained in the *McFarland General Plan Amendment Traffic Impact Analysis*, prepared by Michael Baker International, dated August 26, 2015 (refer to Appendix B, *Traffic Impact Analysis*) was used.

5.7.1 EXISTING SETTING

NOISE SCALES AND DEFINITIONS

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Table 5.7-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time; refer to Table 5.7-2, *Noise Descriptors*.

HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also influence people's response to noise. The factors can include the noise character, variability of the sound level, presence of tones or impulses, and time of day of the occurrence.

Table 5.7-1
Sound Levels and Human Response

Noise Source	dBA Noise Level	Response
	150	
Carrier Jet Operation	**140**	Harmfully Loud
	130	Pain Threshold
Jet Takeoff *(200 ft.)* Discotheque	**120**	
Unmuffled Motorcycle Auto Horn *(3 ft.)* Rock'n Roll Band Riveting Machine	**110**	Maximum Vocal Effort Physical Discomfort
Loud Power Mower Jet Takeoff *(2000 ft.)* Garbage Truck	**100**	Very Annoying Hearing Damage (Steady 8-Hour Exposure)
Heavy Truck *(50 ft.)* Pneumatic Drill *(50 ft.)*	**90**	
Alarm Clock Freight Train *(50 ft.)* Vacuum Cleaner *(10 ft.)*	**80**	Annoying
Freeway Traffic *(50 ft.)*	**70**	Telephone Use Difficult
Dishwashers Air Conditioning Unit *(20 ft.)*	**60**	Intrusive
Light Auto Traffic *(100 ft.)*	**50**	Quiet
Living Room Bedroom	**40**	
Library Soft Whisper *(15 ft.)*	**30**	Very Quiet
Broadcasting Studio	**20**	Just Audible
	10	Threshold of Hearing

Source: Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

Table 5.7-2
Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the L_{eq}'s for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01}, L_{10}, L_{50}, L_{90}, respectively) of the time during the measurement period.

Source: Harris, Cyril M., *Handbook of Noise Control*, 1979.

Additionally, non-acoustical factors, such as a person's opinion of the noise source, ability to adapt to the noise, attitude towards the source and those associated with it, and predictability of the noise, all influence a person's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses range from "not annoyed" to "highly annoyed."

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss;
- Interference with Communication;
- Effects of Noise on Sleep;
- Effects on Performance and Behavior;
- Extra-Auditory Health Effects; and
- Annoyance.

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly caused by the environment is difficult to quantify. Although the major cause of noise induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high, and the task sufficiently complex for effects on performance to occur.

Recent research indicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, and decreased incidence of "helping" behavior and increased incidence of "hostile" behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

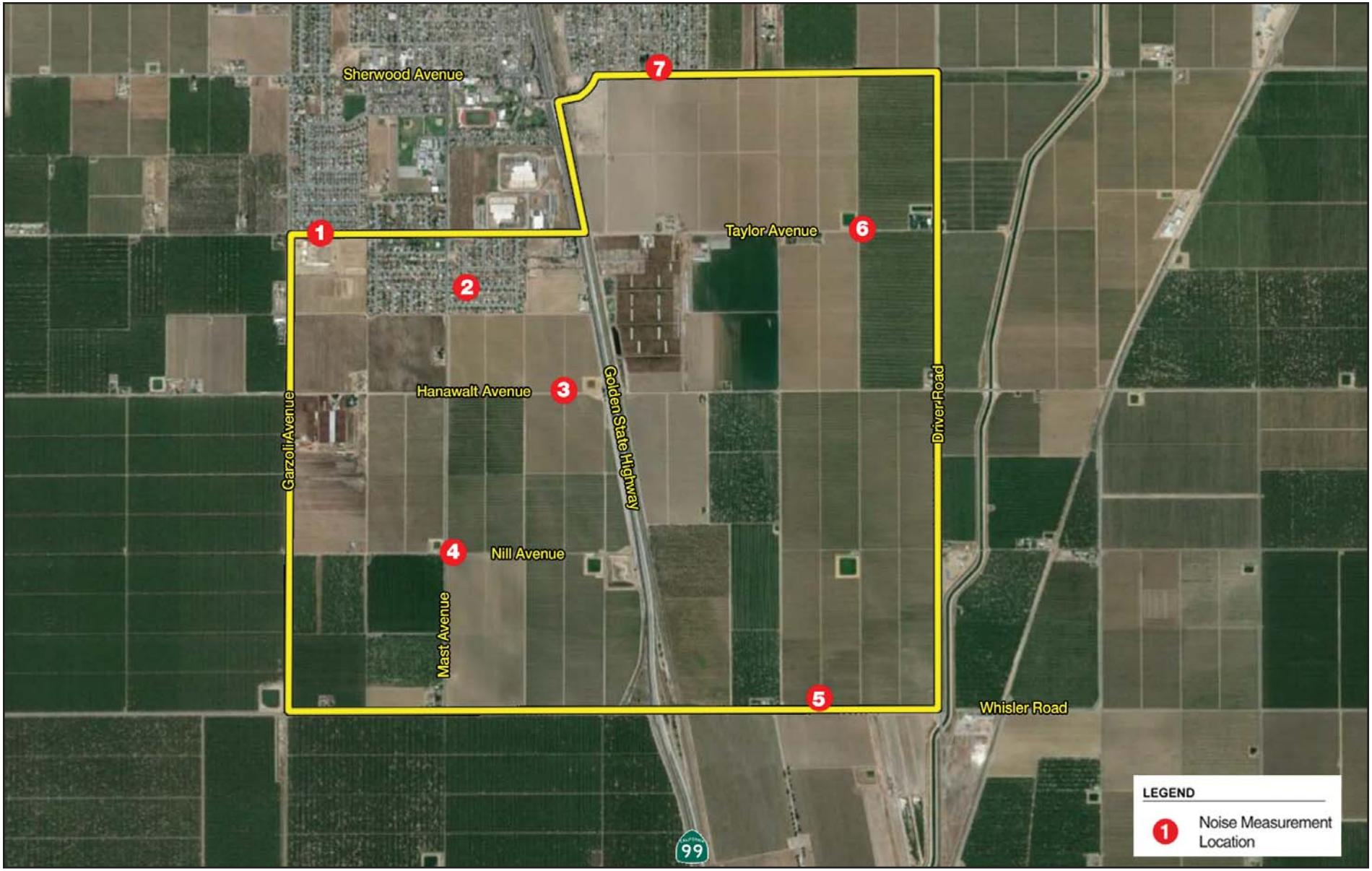
Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

NOISE SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack of it, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise. Based on the McFarland General Plan, noise sensitive uses include schools, hospitals, rest homes, long-term medical or mental care facilities, and other uses deemed sensitive by the City, such as residential uses. Sensitive receptors located within the project area include adjacent single-family residences, parks, and a high school.

AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area, Michael Baker International conducted noise measurements on August 26, 2015; refer to Table 5.7-3, *Noise Measurements*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site; refer to Exhibit 5.7-1, *Noise Measurement Locations*. Ten-minute measurements were taken at each site, between approximately 10:40 a.m. and 1:30 p.m. Meteorological conditions were sunny with scattered clouds, warm, with light wind speeds (0 to 5 miles per hour), and low humidity.



Source: Google Earth, 2015.

NOT TO SCALE

Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Noise Measurement Locations

Exhibit 5.7-1

Table 5.7-3
Noise Measurements

Site No.	Location	Leq (dBA)	Lmin (dBA)	Lmax (dBA)	Peak (dBA)	Time
1	Northeast corner of the Taylor Avenue and Grajeda Street intersection.	58.3	37.4	74.9	108.1	10:42 a.m.
2	Along Carmel Street, approximately 865 feet south of the northern boundary of the project site.	55.1	35.1	65.1	93.1	10:57 a.m.
3	Hanawalt Avenue, approximately 750 feet west of SR-99.	50.9	36.5	69.2	88.2	11:13 a.m.
4	Southeast corner of the Mast Avenue and Nill Avenue intersection, approximately 20 feet south of Nill Avenue.	58.7	32.6	82.1	106.6	11:28 a.m.
5	Whisler Road, approximately 2,600 feet east of SR-99.	54.3	31.4	75.1	93.9	12:43 p.m.
6	Taylor Avenue, approximately 4,400 feet east of SR-99.	62.3	36.5	82.9	104.2	1:04 p.m.
7	Along Sherwood Avenue, approximately 1,660 feet east of SR-99.	67.4	35.8	85.5	101.6	1:17 p.m.

Source: Michael Baker International, August 26, 2015.

Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 pre-polarized freefield microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters. The results of the field measurements are indicated in Appendix D, *Noise Data*. Existing measured noise levels range from approximately 50.9 to 67.4 dBA. Measured noise levels for Site No. 7 along Sherwood Avenue are higher than the other site locations due to the close proximity to the freeway, located approximately 1,660 feet east of State Route 99 (SR-99).

MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The existing roadway noise levels in the vicinity of the project site were projected. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (such as the number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view, and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. A 25- to 35-mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. Noise projections are based on modeled vehicular traffic volumes as derived from the project's Traffic Impact Analysis.

Existing noise contours were calculated for major arterial and minor arterial roadways in the vicinity of the project site; refer to Table 5.7-4, *Existing Traffic Noise Levels*. Noise generation for each roadway link was calculated and the distance to the 60 dBA L_{dn}, 65 dBA L_{dn}, and 70 dBA L_{dn} contours was determined. As shown in Table 5.7-4, the existing traffic noise levels range from a low of 27.8 L_{dn} along Hanawalt Avenue (between Mast Avenue and Frontage Road) to a high of 55.4 L_{dn} along Sherwood Avenue (from west of SR-99 to 1st Street).

Table 5.7-4
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) [1]		
			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour
Sherwood Avenue					
West of SR-99 / 1st Street	4,800	55.4	41	13	4
1st Street					
North of Sherwood Avenue	2,800	53.1	24	8	2
Sherwood Avenue to SR-99	4,200	54.8	36	11	4
Sherwood Avenue					
SR-99 to Browning Road	4,600	55.2	39	12	4
Browning to Bowman Road	3,612	54.3	31	10	3
Bowman Road to Driver Road	1,400	50.2	12	4	1
East of Driver Road	1,400	50.2	12	4	1
Taylor Avenue					
Garzoli Avenue to Mast Avenue	1,500	50.3	13	4	1
Mast Avenue to Frontage Road	884	48.0	8	2	1
Bowman Road to Driver Road	56	36.3	0	0	0
Hanawalt Avenue					
West of Garzoli Avenue	100	38.8	1	0	0
Garzoli Avenue to Mast Avenue	60	36.6	1	0	0
Mast Avenue to Frontage Road	8	27.8	0	0	0
Browning Road to Bowman Road	10	28.8	0	0	0
Bowman Road to Driver Road	10	28.8	0	0	0
East of Driver Road	300	43.5	3	1	0
Whisler Road					
West of Garzoli Avenue	1,300	49.9	11	4	1
Garzoli Avenue to Mast Avenue	1,300	49.9	11	4	1
Mast Avenue to Commercial Access	2,275	52.2	20	6	2
Commercial Access to SR-99	2,275	52.2	20	6	2
West of SR-99	1,700	50.9	15	5	1
SR-99 to Browning Road	1,142	49.3	10	3	1
Browning Road to Bowman Road	1,142	49.3	10	3	1
Bowman Road to Driver Road	1,142	49.3	10	3	1
Garzoli Avenue					
Taylor Avenue to Hanawalt Avenue	600	46.5	5	2	1
Hanawalt Avenue to Whisler Road	579	46.4	5	2	0
South of Whisler Road	50	35.7	0	0	0

Table 5.7-4 [continued]
Existing Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) [1]		
			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour
Mast Avenue					
Sherwood Avenue to Taylor Avenue	3,500	54.0	30	9	3
Taylor Avenue to Hanawalt Avenue	2,945	53.3	25	8	3
Hanawalt Avenue to Whisler Road	1,215	49.6	10	3	1
South of Whisler Road	30	33.6	0	0	0
Browning Road					
North of Sherwood Avenue	1,700	50.9	15	5	1
Sherwood Avenue to Cliff Avenue	61	36.6	1	0	0
Cliff Avenue to Taylor Avenue	61	36.6	1	0	0
Bowman Road					
North of Sherwood Avenue	10	28.8	0	0	0
South of Whisler Road	100	41.6	2	1	0
Driver Road					
North of Sherwood Avenue	1,100	49.1	9	3	1
Sherwood Avenue to Taylor Avenue	981	48.6	8	3	1
Taylor Avenue to Hanawalt Avenue	1,000	48.7	9	3	1
Hanawalt Avenue to Whisler Road	1,014	48.8	9	3	1
South of Whisler Road	800	47.7	7	2	1

Source: Noise modeling is based upon traffic data within the *McFarland General Plan Amendment Traffic Impact Analysis,* prepared by Michael Baker International, August 26, 2015.

It should be noted that the FHWA RD-77-108 models do not account for variations in topography, intervening structures, or soundwalls. It should be noted that these are modeled traffic noise levels, and are not based upon actual site measurements.

FREEWAY NOISE

The SR-99 freeway bisects the City and runs in a north-south direction. According to Caltrans, the annual average daily traffic (AADT) along SR-99 is approximately 57,000 AADT.[1]

RAILROAD NOISE

The Union Pacific Railroad (UPRR), adjacent to SR-99 to the east, creates additional mobile noise sources in the City. The UPRR operates one freight rail line through the City, and runs in a north-south direction, east of the downtown area. According to discussions with City staff, the

[1] Caltrans, *2014 Traffic Volumes on California State Highways,* http://traffic-counts.dot.ca.gov/2014all/Route99.html/, accessed October 19, 2015.

average number of railroad operations through McFarland is approximately two to three freight trains during a typical day.[2]

Railroad noise measurements in McFarland were previously conducted on March 17, 1988 as part of the McFarland General Plan Noise Element. According to the Trainmaster's office in Fresno, the average number of railroad operations through McFarland was approximately 20 trains during a typical day. Operations were distributed more or less evenly through the day and night. Trains were usually composed of two to four locomotives with approximately 75-140 cars. Noise levels were measured at approximately 100 feet from the center of the tracks. Maximum noise levels for the locomotives ranged from 85 to 92 dBA. The Sound Exposure Levels (SEL) for train passbys, including locomotives and cars, ranged from 100 to 104 dB.

STATIONARY NOISE SOURCES

The project area is undeveloped and/or underutilized, consisting primarily of residential and agricultural uses. The primary sources of stationary noise in the project vicinity are urban-related activities (e.g., mechanical equipment and conversations) and agricultural activities. The City has received noise complaints for loud neighbors associated with residences; however, not from traffic or business related sources.[3] In addition, the Central Valley Correctional Facility (CVCF), Golden State Correctional Facility (GSCF), and McFarland Female Community Reentry Facility (FCRF) are located adjacent to the northern portion of the site. The City has not received any noise complaints from these correctional facilities.[4] The noise associated with these sources may represent a single-event or a continuous occurrence.

5.7.2 REGULATORY SETTING

STATE

State of California Guidelines

Government Code § 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the California Department of Health Services.

The guidelines rank noise land use compatibility in terms of “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 Community Noise Equivalent Level (CNEL) and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

[2] Written Correspondence, Dennis McNamara, Planning Director, City of McFarland, October 7, 2015.
[3] Ibid.
[4] Ibid.

REGIONAL

Kern County Municipal Code

Kern County's noise ordinance provides prohibitions for a variety of nuisance noises and sounds in Chapter 8.36, Noise Control of the *Kern County Municipal Code* (County Municipal Code). The standards applicable to the proposed project include:

8.36.020 Prohibited sounds.

H. To create noise from construction, between the hours of 9:00 p.m. and 6:00 a.m. on weekdays and 9:00 p.m. and 8:00 a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling except as provided below:

1. The development services agency director or his designated representative may for good cause exempt some construction work for a limited time.

2. Emergency work is exempt from this section.

CITY OF MCFARLAND

McFarland General Plan

The McFarland General Plan Noise Element works as a basis for achieving land use compatibility within the City. The noise exposure information is used to provide baseline levels for use in the development and enforcement of the City's noise ordinance to address noise levels generated by non-preempted noise sources within the City. The McFarland General Plan Noise Element goals are to protect the citizens of McFarland from the harmful effects of exposure to excessive noise, and to protect the economic base of the City by preventing the encroachment of incompatible land uses near known noise-producing roadways, industries, railroads and other sources. The Noise Element provides policies committed to reflect the goals above.

Policy 1: Areas within the City of McFarland shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding 60 dB L_{dn} or the performance standards described by Table IV. (Figures No. N-D and N-E indicate areas of the City where existing or projected future noise exposures exceed 60 dB L_{dn} for the major noise sources identified during the preparation of this Noise Element.)

Policy 2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the design of projects to reduce noise to the following levels:

a. For noise attributable to sources which are preempted from local control, such as traffic on public roadways and railroad operations, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas and 45 dB L_{dn} or less within interior living spaces. Where it is not possible to reduce

exterior noise attributable to these sources to 60 dB L_{dn} or less using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB L_{dn} will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 dB L_{dn} with the windows and doors closed. It should be noted that in instances where windows and doors must remain closed in order to maintain the required acoustical isolation, air conditioning or mechanical ventilation will be required.

b. For noise due to sources which are not preempted from local control, such as local industries or other stationary noise sources, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas, 45 dB L_{dn} or less within interior living spaces and the performance standards contained within Figure No. N-I (Table 5.7-5, *Exterior Noise Level Standards*).

Table 5.7-5
Exterior Noise Level Standards

Time	Hourly Leq (dBA)[1]	Maximum Noise Level (dBA)[1]
Daytime (7:00 a.m. to 10:00 p.m.)	55	75
Nighttime (10:00 p.m. to 7:00 a.m.)	45	65

Notes:
1. The standards in Table IV should be applied at the boundary of residential or other noise-sensitive land uses and not on the property of a noise-generating land use.

Source: McFarland Noise Element, *Figure No. N-I, Noise Level Performance Standards*, September 1991.

Policy 3: New development of industrial, commercial or other noise-generating land uses will not be permitted if resulting noise levels will exceed 60 dB Ldn in areas containing residential or other noise-sensitive land uses. Additionally, the development of new noise generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table IV in areas containing residential or other noise-sensitive land uses.

Policy 4: Equipment and vehicles owned by the City of McFarland should comply with noise level performance standards consistent with the best available noise reduction technology.

Policy 5: Motor vehicles operated in the City of McFarland should be adequately muffled.

Policy 6: In conformance with the directives of State planning law, the City of McFarland shall ensure that the Noise Element is consistent with and does not conflict with other elements of the City's General Plan.

The Noise Element also identifies the acceptability of noise exposure levels for different land uses. Table 5.7-6, *Land Use Compatibility for Community Noise Environments*, outlines the compatibility standards for various land uses.

Table 5.7-6
Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 – 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	NA	70 - 80	80 – 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

NA: Not Applicable

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development should generally not be undertaken.

Source: City of McFarland, *1991 Noise Element A Part of the McFarland Consolidated 2011 General Plan*, September 12, 1991.

5.7.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; refer to Impact Statements NOI-1, NOI-3, NOI-4 and NOI-5.

- Expose persons to or generate excessive ground borne vibration or ground borne noise levels; refer to Impact Statement NOI-2.

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; refer to Impact Statements NOI-1 and NOI-5.

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; refer to Impact Statement NOI-1 and NOI-2.

- 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, expose people residing or working in the project area to excessive noise levels; refer to Section 8.0, *Effects Found Not To Be Significant*.

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact".

5.7.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE IMPACTS

NOI-1 GRADING AND CONSTRUCTION WITHIN THE AREA COULD RESULT IN SIGNIFICANT TEMPORARY NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.

Impact Analysis: The General Plan Amendment would allow for the future development of approximately 4,850 new dwelling units and 24.8 million square feet of non-residential development based on the land uses and associated development potential. The potential construction of future residential and non-residential development would generate short-term noise impacts. Construction activities have a short and temporary duration, lasting from a few days to a period of several months. Groundborne noise and other types of construction-related noise impacts would typically occur during the initial site preparation, which can create the highest levels of noise. Generally, site preparation has the shortest duration of all construction phases. Activities that occur during this phase include earthmoving and soils compaction. High groundborne noise levels can occur during this phase due to haul trucks, backhoes, and other heavy-duty construction equipment. Construction activities have the potential to expose adjacent sensitive land uses (nearby residential, institutional, and park uses) to noise levels between 70 and 90 decibels at 50 feet from the noise source. The degree of noise impact would be dependent upon the distance between the construction activity and the noise sensitive receptor.

Construction activities associated with the project would occur in incremental phases over time based on market demand, economic and planning considerations. As the project does not propose site-specific development, the phasing and construction details for each future development would be evaluated on a case-by-case basis. It should be noted that the City does not specify limitations on construction hours. Therefore, future development would be subject to compliance with the County Municipal Code; refer to Mitigation Measure NOI-1. According to County Municipal Code Chapter 8.36, no person shall perform any construction or repair work

on weekdays between the hours of 9:00 p.m. and 6:00 a.m. and on weekends between the hours of 9:00 p.m. and 8:00 a.m., which is audible to a person with average hearing faculties or capacity at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling, unless the Development Services Agency Director or his designated representative may for good cause exempt some construction work for a limited time or emergency work. Additionally, implementation of Mitigation Measure NOI-1 would reduce construction noise associated with future development through the use of a site-specific noise reduction features. Specifically, NOI-1 would require the use of the best available noise control techniques as well as requiring alternatives to pneumatic power tools. Mitigation Measure NOI-2 includes a list of measures to respond and track complaints related to construction noise. With implementation of Mitigation Measures NOI-1 and NOI-2, short-term construction noise impacts would be reduced to less than significant levels.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures:

NOI-1 To reduce noise impacts due to construction, the City shall require future project applicants to ensure by contract specifications that construction contractors implement a site-specific noise reduction program. Subject to City review and approval, the site-specific noise reduction program shall include the following measures, ongoing through demolition, grading, and/or construction:

- Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible).
- The City shall require that the contractor maintain and tune-up all construction equipment to minimize noise emissions.
- All equipment servicing shall be performed so as to maintain the greatest possible distance to the sensitive receptors.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electronically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, and this could achieve a reduction of five dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.
- Stationary noise sources shall be placed so as to maintain the greatest possible distance to the sensitive receptors, and they shall be muffled and incorporate insulation barriers, or other measures to the extent feasible.

- A qualified "Noise Disturbance Coordinator" will be retained amongst the construction crew who shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, malfunctioning muffler, etc.) and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the City of McFarland Planning Department.

- Construction activities shall not take place outside of the allowable hours specified by the County Municipal Code Section 8.36.020 (6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends).

NOI-2 Prior to the issuance of each grading permit, project applicants shall submit to the McFarland Planning Department a list of measures to respond to and track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction. These measures shall include the following:

- A procedure and phone numbers for notifying the City of McFarland Public Works Department and City of McFarland Police Department staff (during regular construction hours and off-hours);

- A sign posted on-site pertaining the permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours); and

- A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

VIBRATION IMPACTS

NOI-2 PROJECT IMPLEMENTATION COULD RESULT IN SIGNIFICANT VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.

Impact Analysis:

Short-Term Construction

Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 25 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Future construction activities that may occur within the project area have the potential to generate low levels of groundborne vibration. Table 5.7-7, *Typical Vibration Levels for Construction Equipment*, identifies various vibration velocity levels for types of construction equipment.

Table 5.7-7
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 50 feet (inches/second)
Large bulldozer	0.089	0.031
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Auger/drill rigs	0.089	0.031
Jackhammer	0.035	0.012
Pile driver	0.644	0.228
Vibratory hammer	0.035	0.012
Vibratory compactor/roller	0.003	0.001

Notes:
1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.
2. Calculated using the following formula:

$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

Similar to noise, groundborne vibration decreases rapidly with distance. The groundborne vibration generated during construction activities would primarily impact existing sensitive uses that are located adjacent to or within the vicinity of specific projects. Based upon the information provided in Table 5.7-7, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.089 inch-per-second peak particle velocity (PPV) at 25 feet from the activity source (and up to 0.644 PPV if pile driving activities were to occur). Mitigation Measure NOI-3 requires that alternative methods be utilized should future pile driving activities take place within 50 feet of an occupied structure. Compliance with Mitigation Measure NOI-3 would reduce the generation and/or exposure of persons or structures to excessive groundborne vibration to less than significant levels.

Long-Term Operations

Residential, business park, industrial, office, commercial, public and institutional uses are not anticipated to generate excessive groundborne vibration or groundborne noise. The proposed project would not involve railroads or substantial heavy truck operations, and therefore would not result in vibration impacts at surrounding uses. Therefore, no excessive groundborne vibration or noise would be created from future development anticipated by the General Plan Amendment. Impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures:

NOI-3 The City shall require future developments to implement the following measure to reduce the potential for human annoyance and architectural/structural damage resulting from elevated groundborne noise and vibration levels.

- Pile driving within a 50-foot radius of occupied units or shall utilize alternative installation methods where possible (e.g., pile cushioning, jetting, predrilling, cast-in-place systems, resonance-free vibratory pile drivers, etc.).

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

LONG-TERM (MOBILE) NOISE IMPACTS

NOI-3 TRAFFIC GENERATED BY THE PROPOSED PROJECT COULD SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE CITY'S ESTABLISHED STANDARDS.

Impact Analysis: Implementation of the proposed General Plan Amendment would allow for the development of approximately 4,850 new dwelling units and 24.8 million square feet of non-residential development. Future development would generate increased mobile noise impacts and is estimated to generate approximately 172,022 ADT. The project's forecast traffic volumes would permanently increase the ambient noise levels within the project area and surrounding community. Table 5.7-8, *Future Traffic Noise Levels*, outlines the future roadway noise levels in the project area assuming development occurs consistent with the proposed land uses for the area. Under "Future Without Project" conditions, noise levels at a distance of 100 feet from the centerline would range from approximately 28.8 dBA to 56.4 dBA. The highest noise levels under "Future Without Project" conditions would occur along Sherwood Avenue (between SR-99 and Browning Road). Similarly, under "Future With Project" conditions, noise levels at a distance of 100 feet from the centerline would range from approximately 46.9 dBA to 62.8 dBA, with the highest noise levels occurring along Whisler Road (between Commercial Access and SR-99). Twenty-one of the roadway segments modeled (along Sherwood Avenue, 1st Street, Hanawalt Avenue, Whisler Road, Mast Avenue, and Browning Road) would generate noise levels above 60 dBA CNEL at 100 feet from centerline.

Table 5.7-8
Future Traffic Noise Levels

Roadway Segment	Future Without Project					Future With Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)				
			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour		
Sherwood Avenue												
West of SR-99 / 1st Street	6,100	56.4	52	17	5	25,400	62.6	218	69	22	6.2	***Yes***
1st Street												
North of Sherwood Avenue	3,600	54.2	31	10	3	9,700	58.5	83	26	8	4.3	***Yes***
Sherwood Avenue to SR-99	5,400	55.9	46	15	5	16,300	60.7	140	44	14	4.8	***Yes***
Sherwood Avenue												
SR-99 to Browning Road	5,900	56.3	51	16	5	21.700	62.0	186	59	19	5.7	***Yes***
Browning to Bowman Road	4,600	55.3	40	13	4	10,200	58.8	88	28	9	3.5	***Yes***
Bowman Road to Driver Road	1,800	51.2	15	5	2	5,500	56.1	47	15	5	4.9	***Yes***
East of Driver Road	1,800	51.2	15	5	2	3,800	54.5	33	10	3	3.3	***Yes***
Cliff Avenue												
West of Browning Road	N/A	N/A	N/A	N/A	N/A	1,500	50.3	13	4	1	N/A	N/A
East of Browning Road	N/A	N/A	N/A	N/A	N/A	7,000	56.9	60	19	6	N/A	N/A
Taylor Avenue												
Garzoli Avenue to Mast Avenue	1,900	51.3	16	5	2	1,800	51.0	15	5	2	-0.3	***No***
Mast Avenue to Frontage Road	1,100	48.9	9	3	1	6,500	56.7	56	18	6	7.8	***Yes***
Frontage Road to Browning Road	N/A	N/A	N/A	N/A	N/A	4,800	55.3	41	13	4	N/A	N/A
Browning Road to Bowman Road	N/A	N/A	N/A	N/A	N/A	7,500	57.2	64	20	6	N/A	N/A
Bowman Road to Driver Road	70	37.2	1	0	0	1,000	48.8	9	3	1	11.6	***Yes***
East of Driver Road	N/A	N/A	N/A	N/A	N/A	700	46.9	6	2	1	N/A	N/A
Hanawalt Avenue												
West of Garzoli Avenue	100	38.8	1	0	0	700	47.2	6	2	1	8.4	***Yes***
Garzoli Avenue to Mast Avenue	80	37.8	1	0	0	8,300	58.0	71	23	7	20.2	***Yes***
Mast Avenue to Frontage Road	10	28.8	0	0	0	15,300	60.6	131	42	13	31.8	***Yes***
Frontage Road to SR-99	N/A	N/A	N/A	N/A	N/A	14,400	60.1	124	39	12	N/A	N/A
West of SR-99	N/A	N/A	N/A	N/A	N/A	14,400	60.1	124	39	12	N/A	N/A
SR-99 to Browning Road	N/A	N/A	N/A	N/A	N/A	14,400	60.1	124	39	12	N/A	N/A
Browning Road to Bowman Road	10	28.8	0	0	0	7,600	57.6	65	21	7	28.8	***Yes***
Bowman Road to Driver Road	10	28.8	0	0	0	1,400	50.3	12	4	1	21.5	***Yes***
East of Driver Road	400	44.8	3	1	0	700	47.2	6	2	1	2.4	***Yes***
Nill Avenue												
West of Browning Road	N/A	N/A	N/A	N/A	N/A	7,200	57.1	62	20	6	N/A	N/A
East of Browning Road	N/A	N/A	N/A	N/A	N/A	3,300	53.7	28	9	3	N/A	N/A
Whisler Road												
West of Garzoli Avenue	1,700	51.0	15	5	1	15,500	60.6	133	42	13	9.6	***Yes***
Garzoli Avenue to Mast Avenue	1,700	51.0	15	5	1	5,200	55.9	45	14	4	4.9	***Yes***
Mast Avenue to Commercial Access	2,900	53.2	25	8	2	17,400	61.0	149	47	15	7.8	***Yes***
Commercial Access to SR-99	2,900	53.2	25	8	2	26,700	62.8	229	72	23	9.6	***Yes***
West of SR-99	2,200	52.0	19	6	2	22,100	62.0	190	60	19	10.0	***Yes***
SR-99 to Browning Road	1,500	50.5	13	4	1	20,000	61.8	172	54	17	11.3	***Yes***
Browning Road to Bowman Road	1,500	50.5	13	4	1	6,600	56.9	57	18	6	6.4	***Yes***
Bowman Road to Driver Road	1,500	50.5	13	4	1	1,800	51.3	15	5	2	0.8	***No***
Garzoli Avenue												
Taylor Avenue to Hanawalt Avenue	800	47.7	7	2	1	1,100	49.1	9	3	1	1.4	***No***
Hanawalt Avenue to Whisler Road	700	47.2	6	2	1	11,100	59.2	95	30	10	12.0	***Yes***
South of Whisler Road	60	36.5	1	0	0	700	47.2	6	2	1	10.7	***Yes***

Table 5.7-8 [continued]
Future Traffic Noise Levels

Roadway Segment	Future Without Project					Future With Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)				
			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour			60 L_{dn} Noise Contour	65 L_{dn} Noise Contour	70 L_{dn} Noise Contour		
Mast Avenue												
Sherwood Avenue to Taylor Avenue	4,500	55.1	39	12	4	20,400	61.7	175	55	18	6.6	***Yes***
Taylor Avenue to Hanawalt Avenue	3,800	54.4	33	10	3	20,600	61.7	177	56	18	7.3	***Yes***
Hanawalt Avenue to Whisler Road	1,600	50.8	14	4	1	17,400	61.1	149	47	15	10.3	***Yes***
South of Whisler Road	40	34.8	0	0	0	700	47.3	6	2	1	12.5	***Yes***
Commercial Access												
North of Whisler Road	N/A	N/A	N/A	N/A	N/A	10,300	58.7	88	28	9	N/A	N/A
Frontage Road												
Taylor Avenue to Hanawalt Avenue	N/A	N/A	N/A	N/A	N/A	900	48.0	8	2	1	N/A	N/A
Hanawalt Avenue to Nill Avenue	N/A	N/A	N/A	N/A	N/A	4,200	54.7	36	11	4	N/A	N/A
Browning Road												
North of Sherwood Avenue	2,200	52.0	19	6	2	25,600	62.6	220	69	22	10.6	***Yes***
Sherwood Avenue to Cliff Avenue	80	37.8	1	0	0	19,700	61.7	169	53	17	23.9	***Yes***
Cliff Avenue to Taylor Avenue	80	37.8	1	0	0	14,700	60.4	126	40	13	22.6	***Yes***
Taylor Avenue to Hanawalt Avenue	N/A	N/A	N/A	N/A	N/A	19,400	61.4	167	53	17	N/A	N/A
Hanawalt Avenue to Nill Avenue	N/A	N/A	N/A	N/A	N/A	14,800	60.2	127	40	13	N/A	N/A
Nill Avenue to Whisler Road	N/A	N/A	N/A	N/A	N/A	14,400	60.1	124	39	12	N/A	N/A
South of Whisler Road	N/A	N/A	N/A	N/A	N/A	900	48.0	8	2	1	N/A	N/A
Bowman Road												
North of Sherwood Avenue	10	28.8	0	0	0	700	46.9	6	2	1	18.1	***Yes***
Sherwood Avenue to Taylor Avenue	N/A	N/A	N/A	N/A	N/A	1,500	50.3	13	4	1	N/A	N/A
Taylor Avenue to Hanawalt Avenue	N/A	N/A	N/A	N/A	N/A	5,300	55.7	45	14	5	N/A	N/A
Hanawalt Avenue to Whisler Road	N/A	N/A	N/A	N/A	N/A	5,700	56.1	49	15	5	N/A	N/A
South of Whisler Road	100	41.6	2	1	0	700	49.9	12	4	1	8.3	***Yes***
Driver Road												
North of Sherwood Avenue	1,400	50.2	12	4	1	1,300	49.8	11	4	1	-0.4	***No***
Sherwood Avenue to Taylor Avenue	1,300	49.9	11	4	1	2,100	51.9	18	6	2	2.0	***No***
Taylor Avenue to Hanawalt Avenue	1,300	49.9	11	4	1	1,500	50.5	13	4	1	0.6	***No***
Hanawalt Avenue to Whisler Road	1,300	49.9	11	4	1	1,500	50.5	13	4	1	0.6	***No***
South of Whisler Road	1,000	48.7	9	3	1	1,900	51.5	16	5	2	2.8	***No***

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level; NA = Not Applicable

Source: Noise modeling is based upon traffic data within the *McFarland General Plan Amendment Traffic Impact Analysis*, prepared by Michael Baker International, August 26, 2015.

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernable difference. Thus, the project would result in a significant noise impact when a permanent increase in ambient noise levels of 3 dB occurs upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

As identified in Table 5.7-8, 26 segments along Sherwood Avenue, Hanawalt Avenue, Whisler Road, Garzoli Avenue, Mast Avenue, Browning Road, and Bowman Road would experience a 5 dB increase or more between the Future Without Project and Future With Project conditions. Out of 26 segments, 13 segments would exceed the McFarland General Plan Noise Element land use compatibility criteria of 60 dB L_{dn} for "normally acceptable" noise levels at single-family residential uses but would not exceed the 70 dB L_{dn} "conditionally acceptable" noise levels at single-family residential uses. As depicted in Table 5.7-8, six segments along 1st Street, Sherwood Avenue, and Whisler Road would experience a 3 dB increase or more between the Future Without Project and Future With Project conditions. Out of six segments with perceptible noise increases, predicted noise levels for one segment would exceed the McFarland General Plan Noise Element land use compatibility criteria of 60 dB L_{dn} for "normally acceptable" noise levels at single-family residential uses. Thus, future residential uses proposed along these roadways could be exposed to mobile source noise levels that exceed the City's established land use compatibility criteria of 60 dB L_{dn}.

Future development would be subject to compliance with the McFarland General Plan Policies outlined below, which are intended to minimize the exposure of residents to excessive noise to the extent possible, through the land planning and development review process (Noise Element Goal). Adherence to McFarland General Plan Policy 2 requires new development of residential or other noise-sensitive land uses to not be permitted unless effective mitigation measures are incorporated into the projects design to reduce noise. Although the project proposes the redesignation of some areas along these roadways to residential, no specific development proposals have been identified at this time. As such, specific noise impacts to future residential uses cannot be determined. Thus, traffic noise impacts along Hanawalt Avenue and Mast Avenue are considered to be significant. Mitigation has been recommended requiring subsequent noise studies for future development along Hanawalt Avenue and Mast Avenue in areas that would experience noise levels exceeding 60 dB L_{dn}. Subsequent noise studies are required to demonstrate that noise levels have been properly accounted for and attenuated in accordance with established City standards; refer to Mitigation Measure NOI-4. The analysis would verify that future residences are adequately shielded and/or located at an adequate distance from mobile noise sources. However, impacts would still occur at existing residences and feasible mitigation is not available at these locations. Despite the implementation of Mitigation Measure NOI-4, mobile source noise impacts related to roadway (traffic) noise would remain significant and unavoidable.

Mitigation Programs:

General Plan Objectives/Policies:

Policy 2: New development of residential or other noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the design of projects to reduce noise to the following levels:

a. For noise attributable to sources which are preempted from local control, such as traffic on public roadways and railroad operations, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas and 45 dB L_{dn} or less within interior living spaces. Where it is not possible to reduce exterior noise attributable to these sources to 60 dB L_{dn} or less using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dB L_{dn} will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 dB L_{dn} with the windows and doors closed. It should be noted that in instances where windows and doors must remain closed in order to maintain the required acoustical isolation, air conditioning or mechanical ventilation will be required.

b. For noise due to sources which are not preempted from local control, such as local industries or other stationary noise sources, noise levels should be reduced to 60 dB L_{dn} or less in outdoor activity areas, 45 dB L_{dn} or less within interior living spaces and the performance standards contained within Figure No. N-I.

Project Mitigation Measures:

NOI-4 Prior to the issuance of Grading Permits, any future development along the following segments of Sherwood Avenue, Hanawalt Avenue, Whisler Road, Mast Avenue, and Browning Road that exceeds the City's land use compatibility criteria, shall be designed in compliance with the Uniform Building Code (UBC) and an Acoustical Noise Analysis shall be prepared to ensure that the City of McFarland's noise level standards defined in *McFarland General Plan Noise Element* Figure N-H, *Land Use Compatibility for Community Noise Environments*, are met at all residential, commercial, mixed-use, industrial, and public and institutional uses:

- Hanawalt Avenue
  - Mast Avenue to Frontage Road
- Mast Avenue
  - Taylor Avenue to Hanawalt Avenue
  - Hanawalt Avenue to Whisler Road

Level of Significance: Significant and Unavoidable Impact.

RAILROAD NOISE

NOI-4 THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE TO SEVERE NOISE LEVELS ASSOCIATED WITH RAILROAD NOISE.

Impact Analysis: As discussed above, the UPRR rail line traverses the project area in a north south direction. Future development would be required to comply with City and State guidelines regarding railroad noise, and noise abatement and insulation standards. This would ensure that noise levels in the project and surrounding areas are maintained within acceptable standards that prevent excessive disturbance, annoyance, or disruption.

Additionally, future development would be subject to compliance with McFarland General Plan Policy 2, which is intended to minimize the exposure of residents to excessive noise to the extent possible, through the land planning and development review process (Noise Element Goal). Therefore, following compliance with State and local standards and McFarland General Plan Policy 2, project implementation would result in less than significant impacts involving the exposure of people to severe noise levels due to their proximity to rail lines.

Mitigation Programs:

General Plan Objectives/Policies: Refer to McFarland General Plan Policy 2, above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

LONG-TERM (STATIONARY) NOISE IMPACTS

NOI-5 THE PROPOSED PROJECT WOULD NOT RESULT IN A SIGNIFICANT INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.

Impact Analysis: Future development as a result of the proposed project would create stationary noise typical of any new residential and non-residential land uses. Noise that is typical of residential areas includes children playing, pets, amplified music, pool and spa equipment operation, mechanical equipment, woodworking, car repair, and home repair. Noise from residential stationary sources would primarily occur during the “daytime” activity hours and typically do not substantially increase ambient noise conditions. Future development of non-residential uses (e.g., office, industrial, commercial, and public and institutional) that could generate noise in areas containing noise-sensitive land uses (e.g., residential dwellings, schools, hospitals, parks, and hotels) could cause noise levels to exceed acceptable limits as described above. Future development would be required to adhere to the McFarland General Plan Policies 2 and 3, which prohibits residential, industrial, commercial or noise-generating land uses to be permitted if future noise levels exceed 60 dB in noise-impacted areas or in areas containing residential or other noise-sensitive land uses. Stationary noise impacts as a result of potential new development consistent with the proposed General Plan Amendment are anticipated to result in less than significant impacts.

Mitigation Programs:

General Plan Objectives/Policies: In addition to the following, refer to McFarland General Plan Policy 2, above.

Policy 3: New development of industrial, commercial or other noise-generating land uses will not be permitted if resulting noise levels will exceed 60 dB Ldn in areas containing residential or other noise-sensitive land uses. Additionally, the development of new noise generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table IV in areas containing residential or other noise-sensitive land uses.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.7.5 CUMULATIVE IMPACTS

NOI-5 POTENTIAL DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT THROUGHOUT THE CITY COULD RESULT IN CUMULATIVELY CONSIDERABLE NOISE IMPACTS FROM MOBILE AND STATIONARY NOISE SOURCES.

Impact Analysis: Implementation of the proposed project would allow for the development of residential units and mixed-use, industrial, office, commercial, and public and institutional uses within the Plan area. Future development would generate increased mobile noise impacts within the area.

Cumulative Mobile Noise Sources

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the proposed project's incremental effects are then analyzed. A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative plus project" condition to "existing" conditions. This comparison accounts for the traffic noise increase generated by the proposed project combined with the traffic noise increase generated by the cumulative projects. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- *Combined Effects*: The cumulative with project noise level ("2040 With Project") would cause a significant cumulative impact if a 3 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with identified cumulative projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase

must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- *Incremental Effects: The* "2040 With Project" causes a 1 dBA increase in noise over the "2040 Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been met. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only the cumulative development in the project's general vicinity would contribute to cumulative noise impacts. Table 5.7-9, *Cumulative Traffic Noise Scenario*, lists the traffic noise effects along roadway segments in the project vicinity for "Existing," "2040 Without Project," and "2040 With Project," including incremental and net cumulative impacts.

Table 5.7-9
Cumulative Traffic Noise Scenario

Roadway Segment	Existing	2040 Without Project	2040 With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and 2040 With Project	Difference in dBA Between 2040 Without Project and 2040 With Project	
Sherwood Avenue						
West of SR-99 / 1st Street	55.4	56.4	62.6	7.2	6.2	***Yes***
1st Street						
North of Sherwood Avenue	53.1	54.2	58.5	5.4	4.3	***Yes***
Sherwood Avenue to SR-99	54.8	55.9	60.7	5.9	4.8	***Yes***
Sherwood Avenue						
SR-99 to Browning Road	55.2	56.3	62.0	6.8	5.7	***Yes***
Browning to Bowman Road	54.3	55.3	58.8	4.5	3.5	***Yes***
Bowman Road to Driver Road	50.2	51.2	56.1	5.9	4.9	***Yes***
East of Driver Road	50.2	51.2	54.5	4.3	3.3	***Yes***
Cliff Avenue						
West of Browning Road	N/A	N/A	50.6	N/A	N/A	N/A
East of Browning Road	N/A	N/A	57.3	N/A	N/A	N/A
Taylor Avenue						
Garzoli Avenue to Mast Avenue	50.3	51.3	51.0	0.7	-0.3	***No***
Mast Avenue to Frontage Road	48.0	48.9	56.7	8.7	7.8	***Yes***
Frontage Road to Browning Road	N/A	N/A	55.3	N/A	N/A	N/A
Browning Road to Bowman Road	36.3	N/A	57.6	21.3	N/A	N/A
Bowman Road to Driver Road	36.7	37.2	48.8	12.1	11.6	***Yes***
East of Driver Road	N/A	N/A	47.3	N/A	N/A	N/A

Table 5.7-9 [continued]
Cumulative Traffic Noise Scenario

Roadway Segment	Existing	2040 Without Project	2040 With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and 2040 With Project	Difference in dBA Between 2040 Without Project and 2040 With Project	
Hanawalt Avenue						
West of Garzoli Avenue	38.8	38.8	47.2	8.4	8.4	***Yes***
Garzoli Avenue to Mast Avenue	36.6	37.8	58.0	21.4	20.2	***Yes***
Mast Avenue to Frontage Road	27.8	28.8	60.6	32.8	31.8	***Yes***
Frontage Road to SR-99	38.8	N/A	60.5	21.7	N/A	N/A
West of SR-99	36.6	N/A	60.5	23.9	N/A	N/A
Browning Road to Bowman Road	28.8	28.8	57.6	28.8	28.8	***Yes***
Bowman Road to Driver Road	28.8	28.8	50.3	21.5	21.5	***Yes***
East of Driver Road	43.5	44.8	47.2	3.7	2.4	***Yes***
Nill Avenue						
West of Browning Road	N/A	N/A	57.4	N/A	N/A	N/A
East of Browning Road	N/A	N/A	54.1	N/A	N/A	N/A
Whisler Road						
West of Garzoli Avenue	49.9	51.0	60.6	10.7	9.6	***Yes***
Garzoli Avenue to Mast Avenue	49.9	51.0	55.9	6.0	4.9	***Yes***
Mast Avenue to Commercial Access	52.2	53.2	61.0	8.8	7.8	***Yes***
Commercial Access to SR-99	52.2	53.2	62.8	10.6	9.6	***Yes***
West of SR-99	50.9	52.0	62.0	11.1	10.0	***Yes***
SR-99 to Browning Road	49.3	50.5	61.8	12.5	11.3	***Yes***
Browning Road to Bowman Road	49.3	50.5	56.9	7.6	6.4	***Yes***
Bowman Road to Driver Road	49.3	50.5	51.3	2.0	0.8	***No***
Garzoli Avenue						
Taylor Avenue to Hanawalt Avenue	46.5	47.7	49.1	2.6	1.4	***No***
Hanawalt Avenue to Whisler Road	46.4	47.2	59.2	12.8	12.0	***Yes***
South of Whisler Road	35.7	36.5	47.2	11.5	10.7	***Yes***
Mast Avenue						
Sherwood Avenue to Taylor Avenue	54.0	55.1	61.7	7.7	6.6	***Yes***
Taylor Avenue to Hanawalt Avenue	53.3	54.4	61.7	8.4	7.3	***Yes***
Hanawalt Avenue to Whisler Road	49.6	50.8	61.1	11.5	10.3	***Yes***
South of Whisler Road	33.6	34.8	47.3	13.7	12.5	***Yes***
Commercial Access						
North of Whisler Road	N/A	N/A	58.7	N/A	N/A	N/A
Frontage Road						
Taylor Avenue to Hanawalt Avenue	N/A	N/A	48.0	N/A	N/A	N/A
Hanawalt Avenue to Nill Avenue	N/A	N/A	54.7	N/A	N/A	N/A

Table 5.7-9 [continued]
Cumulative Traffic Noise Scenario

Roadway Segment	Existing	2040 Without Project	2040 With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and 2040 With Project	Difference in dBA Between 2040 Without Project and 2040 With Project	
Browning Road						
North of Sherwood Avenue	50.9	52.0	62.6	11.7	10.6	***Yes***
Sherwood Avenue to Cliff Avenue	36.6	37.8	61.7	25.1	23.9	***Yes***
Cliff Avenue to Taylor Avenue	36.6	37.8	60.4	23.8	22.6	***Yes***
Taylor Avenue to Hanawalt Avenue	N/A	N/A	61.4	N/A	N/A	N/A
Hanawalt Avenue to Nill Avenue	N/A	N/A	60.2	N/A	N/A	N/A
Nill Avenue to Whisler Road	N/A	N/A	60.1	N/A	N/A	N/A
South of Whisler Road	N/A	N/A	48.0	N/A	N/A	N/A
Bowman Road						
North of Sherwood Avenue	28.8	28.8	46.9	18.1	18.1	***Yes***
Sherwood Avenue to Taylor Avenue	N/A	N/A	50.6	N/A	N/A	N/A
Taylor Avenue to Hanawalt Avenue	N/A	N/A	56.1	N/A	N/A	N/A
Hanawalt Avenue to Whisler Road	N/A	N/A	56.4	N/A	N/A	N/A
South of Whisler Road	41.6	41.6	49.9	8.3	8.3	***Yes***
Driver Road						
North of Sherwood Avenue	49.1	50.2	49.8	0.7	-0.4	***No***
Sherwood Avenue to Taylor Avenue	48.6	49.9	51.9	3.3	2.0	***Yes***
Taylor Avenue to Hanawalt Avenue	48.7	49.9	50.5	1.8	0.6	***No***
Hanawalt Avenue to Whisler Road	48.8	49.9	50.5	1.7	0.6	***No***
South of Whisler Road	47.7	48.7	51.5	3.8	2.8	***Yes***

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level; NA = Not Applicable

Source: Noise modeling is based upon traffic data within the *McFarland General Plan Amendment Traffic Impact Analysis,* prepared by Michael Baker International, August 26, 2015.

First, it must be determined whether the cumulative plus project increase above existing conditions (*Combined Effects*) is exceeded. Per Table 5.7-9, this criterion is exceeded along 32 of the segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the ambient (2040 Without Project) noise level is increased by 1 dB or more. Based on the results of Table 5.7-9, of the 32 segments that exceed the *Combined Effects* criteria, 32 would also exceed the *Incremental Effects* criteria. Therefore, 32 of the roadway segments would result in significant cumulative impacts, as they would exceed both the *Combined Effects* and the *Incremental Effects* criteria. The proposed project would result in long-term mobile noise impacts based on project generated traffic as well as cumulative and incremental noise levels within the area. Typically, feasible mitigation measures for off-site roadway noise impacts includes repairing the roads with rubberized asphalt and developing sound walls or attenuation barriers to minimize noise impacts. Mitigation Measure NOI-4 would reduce traffic noise impacts to future development sites within the project area. However, this mitigation can only be imposed on on-site roadways. As impacts would also occur on off-site

roadways and properties, it is infeasible for future development projects to implement these measures. Therefore, impacts to off-site uses from traffic noise would be considered significant and unavoidable since feasible mitigation measures would not be available to mitigate noise levels on all surrounding roadways to below thresholds. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a significant cumulative impact in this regard.

Cumulative Stationary Noise Sources

The McFarland General Plan Noise Element provided 60 dB L_{dn} noise contours in *Figure No. N-D 1988 & 1998 Noise Contours Combined Noise Sources* and *Figure No. N-E 1998 Noise Contours Individual Noise Sources* for existing industrial and other stationary sources as well as future levels of activity since it was not possible to determine future levels of activity from source operators. It is intended that these noise contours be utilized as a screening device by McFarland to determine when site-specific noise studies are required to prevent future land use conflicts.

Although cumulative projects would occur within the project vicinity, the noise generated by stationary equipment onsite cannot be quantified given the conceptual nature of each development. However, each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Future development would be required to adhere to the McFarland General Plan Policies 2 and 3, which prohibits residential, industrial, commercial or noise-generating land uses to be permitted if future noise levels exceed residential or other noise-sensitive land uses noise standards. Additionally, as noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective development sites and their vicinities. Therefore, cumulative noise impacts from stationary noise sources would be considered less than significant.

Mitigation Programs:

McFarland General Plan Policies: Refer to McFarland General Plan Policies 2 and 3.

Project Mitigation Measures: Refer to Mitigation Measure NOI-4.

Level of Significance: Significant and Unavoidable Impact.

5.7.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Project implementation would result in significant unavoidable long-term (mobile) noise and cumulative traffic noise impacts as a result of future development consistent with the proposed General Plan Amendment with implementation of the McFarland General Plan policies. If the City of McFarland approves the proposed project, the City shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with Section 15093 of CEQA.

Section 5.8
Geology and Soils

5.8 GEOLOGY AND SOILS

This section evaluates the geologic and seismic conditions within the project area and the potential for geologic hazard impacts associated with implementation of the proposed project.

5.8.1 EXISTING SETTING

GEOLOGIC SETTING

Regionally, the project area is located within the northern San Joaquin Valley region within Kern County. The San Joaquin Valley trends in a northwest-southeast direction, and is bordered by the Sierra Nevada Mountains to the east, and the California coastal range to the east. The San Joaquin Valley was formed by intermittent westerly tilting of the underlying crystalline rocks, which elevated the Sierra Nevada Mountains on the eastern border of the valley and depressed the western portion of the valley. The low alluvial plains and fans in the San Joaquin Valley floor are relatively flat and featureless, occupying most of the floor's area. The eastern portion of the San Joaquin Valley floor contains high proportions of well-sorted gravel and sand, while the instream areas between the fans are underlain by poorly sorted, fine-grained fluvial sediment deposited by intermittent streams.

Kern County is located within a seismically active region, containing several major unstable fault lines. The most notable structural feature in this range is the San Andreas Fault. This master fault extends southward from Humboldt County in Northern California to the Salton Sea near the Mexican border, a distance of about 650 miles. In the southern Coast Ranges through Kern County, the San Andreas Fault zone is a well-defined zone that trends approximately northwest 35 degrees. The San Andreas Fault reaches from a submarine intersection with the Mendocino escarpment at the north to the Imperial Valley at the south. Along this extent, the San Andreas Fault is considered the boundary between the North American Plate and the Pacific Plate. These plates have relative motion such that the Pacific Plate has been moving to the northwest at rates estimated from 1-1/2 to 2-1/2 inches per year for the past 30 million years.[1] Not all of the movement has been accommodated on the San Andreas Fault, but it has slipped the most and is the most conspicuous feature of the plate boundary. Other faults in the vicinity of the project area include the Pond-Poso Creek fault (within five miles of the project area), and the New Hope, Premier, and Kern Front faults (all within 20 miles of the project area).[2]

SITE CONDITIONS

According to the latest U.S. Geological Survey (USGS) topographic map for the McFarland 7.5' Quadrangle, the topography of the project area is relateively flat, and has an overall northwesterly-sloping surface with elevations ranging from approximately 395 feet above msl along the eastern margin to approximately 350 feet above msl along the western margin. State Route 99 (SR-99) bisects the project area in a north-south direction.

[1] County of Kern, *Recirculated Kern County General Plan Environmental Impact Report*, January 2004.
[2] United States Geological Survey, *Earthquake Hazards Program, Faults and Earthquake Probability Maps*, http://earthquake.usgs.gov/regional/nca/maps/index.php, accessed October 12, 2015.

Soils Characteristics

According to the United States Department of Agriculture's Web Soil Survey, the project area contains three different soil types, including Delano Sandy loam (0 to 2 percent slopes), McFarland loam, and Wasco sandy loam. The majority of the on-site soils consist of the McFarland loam, which is a deep, well-drained soil found on alluvial fans and floodplains. It forms in alluvium derived dominantly from granitic rock. Permeability of the McFarland loam is moderate, available water holding capacity is high, runoff is slow and the hazard of water erosion is slight. This soil is considered suitable for agriculture with irrigation, mainly alfalfa, cotton, and grapes. Among the other crops grown are milo, walnuts, and roses. Permeability of the Delano Sandy Loam is moderately slow, available water capacity is high, runoff is slow, and the hazard of water erosion is slight. Permeability of the Wasco sandy loam is moderately rapid, available water holding capacity is moderate, runoff is slow and the hazard of water erosion is slight.

Groundwater

According to the California Department of Water Resources Groundwater Information Center, groundwater depth in the general vicinity of the project area ranges between approximately 305 and 320 feet below ground surface (bgs).[3]

Mineral Resources

There are no documented metallic or non-metallic mineral deposits, oil or gas prospects, or significant paleontological sites within the project area. The nearest oil fields are the Rose fields located approximately 6.25 miles to the west/southwest, and the West Jasmin fields located approximately 6.06 miles to the northwest of the project area. According to a State of California Division of Oil, Gas, and Geothermal Resources (DOGGR) District 4 map, the closest plugged oil well is located between Sherwood Avenue and Taylor Avenue, approximately 1,000 feet north of Taylor Avenue (and the project area). This well is identified as Trio Petroleum, LLC, Well #13-73.

GEOLOGIC HAZARDS

The analysis provided below addresses the potential for geologic hazards and geotechnical constraints to exist within the project area. Hazards associated with earthquakes include primary seismic hazards, such as strong ground shaking and surface rupture, and secondary seismic hazards, such as liquefaction, lateral spreading, seismically-induced settlement and landsliding, tsunamis, and seiche. The potential geotechnical constraints addressed below include landslides, land subsidence, corrosive soils, expansive soils, subsidence, sloughing or caving of excavations, slope stability, and soil erosion.

Seismicity and Faulting

As discussed above, the project area is situated within a seismically active area in the San Joaquin Valley. According to the California Geological Survey (CGS), a fault is defined as a fracture in the crust of the earth along which rocks on one side have moved relative to those on

[3] California Department of Water Resources, *Groundwater Information Center Interactive Map Application*, https://gis.water.ca.gov/app/gicima/, accessed October 12, 2015.

the other side. Most faults are the result of repeated displacements over a long period of time. An inactive fault is a fault that has not experienced earthquake activity within the last three million years. In comparison, an active fault is one that has experienced earthquake activity in the past 11,000 years. A fault that has moved within the last two to three million years, but has not been proven by direct evidence to have moved within the last 11,000 years, is considered potentially active.

The Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code Sections 2621-2624, Division 2, Chapter 7.5 regulates development near active faults in order to mitigate the hazard of surface fault-rupture. Under the Act, the State Geologist is required to delineate "special study zones" along known active faults in California. According to the Alquist-Priolo Earthquake Fault Zone Map – Pond Quadrangle, the project area is not affected by a State-designated Alquist-Priolo Earthquake Fault Zone.[4] In addition, the Kern County Seismic Hazard Atlas does not show any active faults within the project area.[5] The closest Earthquake Fault Zone to the project area is the Pond Fault Zone located approximately five miles to the northwest. Given the proximity of the project site to these and numerous other active and potentially active faults, the project site would likely be subject to earthquake ground motions in the future.

Seismically-Induced Ground Motion

The primary seismic hazard in the City of McFarland and project area is from groundshaking. The deep surface layer of unconsolidated alluvial sedimentation in the San Joaquin Valley around the City of McFarland is susceptible to considerable sudden movement when potential energy, built up along nearby fault systems, is suddenly released. Severe groundshaking can result in widespread damage to buildings, pavement, underground pipelines, and aqueducts.

Seismic-Induced Landslides

Landslides tend to occur in weak soil and rock on sloping terrain. The project area is essentially flat, and is not located within an area mapped as having the potential for seismic-induced landsliding (as shown in Seismic Hazard Zone Map for the Pond Quadrangle). According to the Seismic Hazards Zones Map for the Pond Quadrangle (Effective January 1, 1985), the project area is not located within an earthquake-induced landslide hazard.[6] In addition, based on the distance between the project area and the gradient of slopes associated with the Sierra Nevada Mountains to the east, the potential for landslide induced hazard within the project area is negligible.

Liquefaction and Lateral Spreading

Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. Liquefaction is caused by a sudden temporary increase in pore water pressure due to seismic densification or other displacement of submerged granular soils. Liquefaction more often occurs in earthquake-prone areas underlain by young (i.e., Holocene age) alluvium where the groundwater table is higher

[4] State of California Department of Conservation, California Geological Survey, *Alquist-Priolo Earthquake Fault Zone Maps*, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, Accessed October 12, 2015.

[5] County of Kern, Seismic Hazard Atlas, *McFarland*, http://esps.kerndsa.com/maps/seismic-hazard-at, accessed October 12, 2015.

[6] State of California Department of Conservation, California Geological Survey, *Alquist-Priolo Earthquake Fault Zone Maps*, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, Accessed October 12, 2015.

than 50 feet below ground surface. The soil formations throughout much of Kern County, especially in the desert area of eastern Kern County and the Central Valley area of western Kern County, are comprised of thick, unconsolidated, coarse-textured alluvial sediments composed of gravel, sand and silt of granitic composition. The California Geological Survey identifies liquefaction zones where the stability of foundation soils must be investigated and countermeasures undertaken in the design and construction of buildings for human occupancy. McFarland is not located within an area identified as having the potential for liquefaction.[7]

Due to the relatively flat topography and distance from any slopes, low potential for liquefaction, and the dense nature of the site soils, the potential for lateral spreading at the project site is also considered low.

Subsidence

The extraction of groundwater or oil from sedimentary source rocks can cause the permanent collapse of pore space that was previously occupied by the removed fluid. The compaction of subsurface sediments resulting from fluid withdrawal can and has caused the ground surface overlying fluid reservoirs to subside. If sufficiently great, the subsidence can cause significant damage to nearby engineered structures. A majority of the subsidence occurred as a result of accelerated ground water pumping of the deep aquifer system during the 1950s and 1960s. The southern end of the San Joaquin Valley has seen the most subsidence, four to eight feet in some areas. McFarland has historically experienced a mild degree of subsidence.

Ground failure can be accelerated by ground shaking in areas where subsidence already occurs. This condition currently exists in McFarland, and as continued population growth, water demands, and uncertain water supplies are likely to continue, so will the trend of groundwater withdrawal and the potential for subsidence.

Expansive Soils

Expansive soils create a shrink-swell hazard. Structural damage may result over a long period of time, usually from inadequate soils and foundation engineering or the placement of structures directly on expansive soils. Expansive soils are largely comprised of clays, which expand in volume when water is absorbed and shrink as the soil dries. Clay soils are not found within the planning area.

Soil Erosion

Erosion induced by seismic activity occurs on gentle-to-steep slopes covered by loose sediments. Fissures, steep slopes, and offsets along a fracture zone may enhance seismically induced erosion. Although it could become a significant hazard in many areas of the County, soil erosion within the City of McFarland and project area is not considered significant.

[7] State of California Department of Conservation, California Geological Survey, *Alquist-Priolo Earthquake Fault Zone Maps*, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm, Accessed October 12, 2015.

Tsunamis

According to the CGS Los Angeles County Tsunami Inundation Maps,[8] the project area is not located within a tsunami inundation area. Additionally, based on the distance of the project area from large bodies of open water, the possibility of seiches and/or tsunamis affecting the site is considered low.

5.8.2 REGULATORY SETTING

FEDERAL AND STATE

Soil and Water Resources Conservation Act

The purpose of the Soil and Water Resources Conservation Act of 1977 is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions and of its function as an archive of natural and cultural history should be avoided, as far as practicable. In addition, the requirements of the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) through the National Pollution Discharge Elimination System (NPDES) permit) provide guidance for protection of geologic and soil resources.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code 2621-2624, Division 2 Chapter 7.5) was passed to mitigate the hazard of surface faulting to structures for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Act requires the State Geologist to establish regulatory zones, known as "Earthquake Fault Zones," around the surface traces of active faults and to issue appropriate maps. Local agencies must regulate most development projects within these zones. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet set backs are required).

Effective June 1, 1998, the Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property is being sold lies within one or more State-mapped hazard areas, including Earthquake Fault Zones.

[8] Ibid.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards. Staff geologists in the Seismic Hazard Zonation Program gather existing geological, geophysical, and geotechnical data from numerous sources to produce the Seismic Hazard Zone Maps. They integrate and interpret these data regionally in order to evaluate the severity of the seismic hazards and designate as Zones of Required Investigation (ZORI) those areas prone to liquefaction and earthquake–induced landslides. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes.

The Seismic Hazards Mapping Act requires site-specific geotechnical investigations be conducted within the ZORI to identify and evaluate seismic hazards (i.e., liquefaction and earthquake induced landslides) and formulate mitigation measures prior to permitting most developments designed for human occupancy.

International Building Code

Development standards require projects to comply with appropriate seismic design criteria in the International Building Code (IBC) (with California Amendments), adequate drainage facility design, and preconstruction soils and grading studies. Seismic design standards have been established to reduce many of the structural problems occurring because of major earthquakes. In 1998, the IBC was revised, as follows:

- Upgrade the level of ground motion used in the seismic design of buildings;
- Add site amplification factors based on local soils conditions; and
- Improve the way ground motion is applied in detailed design.

California Building Code

California building standards are published in the California Code of Regulations, Title 24, also known as the CBC. The recently published 2013 CBC took effect July 1, 2014. The CBC, which applies to all applications for building permits, consists of 12 parts, including among others Part 2 - California Building Code and Part 11 - California Green Building Standards Code (CALGreen Code). CBC Part 2 is based upon the 2009 International Building Code. Local agencies must ensure that all development complies with the CBC guidelines. Cities and counties have the ability to adopt additional building standards beyond the CBC.

California Historical Building Code

The 2010 California Historical Building Code (CHBC) (California Code of Regulations, Title 24, Part 8) requires city building departments to apply the provisions of alternative building standards and building regulations adopted by the CHBC Board in permitting repairs, alterations, and additions necessary for the preservation, restoration, rehabilitation, moving, or continued use of an historical building or structure. The purpose of the CHBC is to provide such regulations for buildings or properties designated as qualified historical buildings or properties. The intent of the CHBC is to facilitate the preservation and continuing use of qualified historical

buildings or properties while providing reasonable safety for the building occupants and access for persons with disabilities.

CITY OF MCFARLAND

McFarland Safety Element

The City of McFarland recently updated its General Plan Safety Element. The purpose of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Safety Element establishes preventative and responsive policies and programs to mitigate the potential impacts associated with hazards that may affect the City of McFarland. This Element addresses geologic and seismic hazards, flood hazards, fire hazards, hazardous materials, and emergency preparedness and response planning.

McFarland Municipal Code

CHAPTER 15.04, BUILDING CODES

Municipal Code Chapter 15.04 is the City's "Code of Building Regulation", promoting public safety and welfare by adopting minimum building standards required and enforced throughout the City. Article III, Adoption of Codes is referred to as the "city building code". The city building code applies to the construction, erection, enlargement, alteration, repair, moving, improvement, removing, conversion, demolition and use and occupancy of every building and structure in the incorporated territory of the City. Section 15.05.160, Adoption of Uniform Codes, incorporates by reference into the Building Code of the City of McFarland the following Uniform Codes (or portions of same) adopted by the County of Kern, as amended: Building Regulations, Residential Code, Building Code, Green Code, Mechanical Code, Housing Code, Plumbing Code, Electrical Code, Grading Code, Seismic Strengthening Provisions For Unreinforced Masonry Bearing Wall Buildings, Fire Code, Wild-Land Interface Code, Dangerous Buildings Code, Building Relocation, Mobile Homes and Accessory Structures, Flood Plain Management, and Energy Code. The County's Code of Building Regulations adopts the California Building Standards Code.

CHAPTER 16.22, SECTION 16.22.060, FILING AND PROCESSING

Municipal Code Section 16.22.060 requires vesting tentative maps filed within the City to provide a Preliminary Soils Report. In addition, in compliance with Chapter 15.30, Section 15.30.030, each development project within the City must provide a landscape documentation package that includes a soil analysis. According to Section 15.30.040, the soil analysis must include the following:

a. Determination of soil texture, indicating the percentage of organic matter;

b. An approximate soil infiltration rate (either measured or derived from soil texture/infiltration rate tables). A range of infiltration rates shall be noted where appropriate; and

c. Measure of pH, and total soluble salts.

5.8.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; refer to Section 8.0, *Effects Found Not To Be Significant*.
  - Strong seismic ground shaking; refer to Impact Statement GEO-1.
  - Seismic-related ground failure, including liquefaction; refer to Section 8.0, *Effects Found Not To Be Significant*.
  - Landslides; refer to Section 8.0, *Effects Found Not To Be Significant*.
- Result in substantial soil erosion or the loss of topsoil; refer to Impact Statement GEO-2.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; refer to Impact Statement GEO-3.
- Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (1994), creating substantial risks to life or property; refer to Impact Statement GEO-4.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these standards, the project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact."

5.8.4 IMPACTS AND MITIGATION MEASURES

STRONG SEISMIC GROUND SHAKING

GEO-1 THE PROJECT COULD EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS INVOLVING STRONG SEISMIC GROUND SHAKING.

Impact Analysis: The proposed project would allow for the future development of approximately 4,850 dwelling units and 24.8 million square feet of non-residential development, potentially introducing new development and people to the area. A moderate to large magnitude earthquake on a regional fault could cause moderate to severe seismic shaking in the City, thus exposing people or structures in the project area to potential substantial adverse effects, including the risk of loss, injury, or death. The possibility of moderate to high ground acceleration in the City and project area may be considered as approximately similar to the entire Southern California region, as a whole. Ground shaking accompanying earthquakes on nearby faults can be expected to produce the potential for strong ground motion during the design life of the proposed project. The intensity of ground shaking within the project area would depend upon the magnitude of the earthquake, distance to the epicenter, and the geology of the area between the epicenter and the project area.

Given the proximity to major active faults, severe ground motion should be expected within the project area. In general, the City regulates development (and reduces potential seismic and geologic impacts) under the requirements of the City's Building Code (Municipal Code Chapter 15.04, Building Codes) and project-specific mitigation measures. Numerous controls would be imposed on future development through the permitting process that would lessen potential risks involving strong seismic ground shaking. The design, construction, and engineering of structures within the project area would be subject to compliance with the City's Building Code. The City's Building Code provides minimum standards to safeguard property and public welfare from potential seismic and geologic hazards by regulating the design, construction, quality of materials, use and occupancy, location and maintenance of buildings, equipment, and structures.

Any structures proposed for construction within the project area associated with the site-specific development would be required to be designed to withstand the "design-level" earthquake, as set forth in the latest edition of the California Building Code (CBC). In addition, as outlined in Mitigation Measure GEO-1, future development projects would be required to submit a site-specific geotechnical report addressing seismic ground shaking, subsidence, and expansive soils, among other geologic hazards. The geotechnical report would provide site-specific construction recommendations to reduce potential seismic hazards to maximum extent feasible. Further, as required by Mitigation Measure GEO-2, all plans for individual development projects would be required to illustrate to the City Engineer compliance with the most current engineering standards and requirements of the City's Building Code. As such, potential adverse effects to people and structures from strong, seismically-induced, vibratory ground motion would be mitigated through proper seismic design and conformance with the City's Building Code and CBC, and implementation of Mitigation Measures GEO-1 and GEO-2. Impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Goal SAF-2: A community protected from loss of life or injury and damage to property due to geologic and seismic hazards.

Policy SAF-2.1: Continue to incorporate geotechnical hazard data in future land use decision-making, site design, and construction standards.

Policy SAF-2.2: Adopt the latest version of the building codes adopted by the State of California and ensure implementation in all new construction and renovations.

Policy SAF-2.3: Require site-specific soils and/or geologic reports for development in areas where potentially serious geologic risks exist.

Policy SAF-2.4: Monitor and enforce mitigation measures to reduce risks for projects where seismic and geologic hazards can be mitigated and prohibit development in areas where seismic and geologic hazards cannot be mitigated.

Policy SAF-2.5: Promote the upgrade, retrofitting, and/or relocation of all existing critical facilities (e.g., police and fire stations, hospitals, schools, community centers, water facilities, public works yard, emergency access routes) and other important public facilities that do not meet current building code standards and are within areas of seismic or geologic hazard risks.

Policy SAF-2.6: Continue to seek out opportunities to educate and encourage the community on ways to implement measures to mitigate potential injury and damage associated with earthquakes.

Project Mitigation Measures:

GEO-1 Prior to the issuance of a grading permit, a site-specific geotechnical report shall be prepared by a registered geologist or soils engineer and submitted to the City Engineer, or his designee, for approval. The geotechnical report shall address potential geologic issues of concern within the area including, but not limited to, seismic ground shaking, subsidence, and expansive soils, and shall provide construction recommendations to minimize impacts. All recommendations in the geotechnical report shall be implemented during site preparation, grading, and construction.

GEO-2 Prior to the approval of final project plans for individual development projects, the City Engineer, or his designee, shall confirm that all plans illustrate compliance with the most current engineering standards and requirements of the City's Building Code.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

SOIL EROSION

GEO-2 THE PROJECT WOULD NOT RESULT IN SUBSTANTIAL SOIL EROSION OR THE LOSS OF TOPSOIL.

Impact Analysis: Potential future construction activities within the project area would likely involve ground-disrupting activities such as excavation and trenching for foundations and utilities, soil compaction and site grading, and the erection of new structures, all of which would temporarily disturb soils. However, the short-term effects of soil erosion during rough grading for future development projects are not considered significant, given the project area is

essentially flat and does not possess site conditions necessarily conducive to soil erosion. Moreover, as concluded in Section 5.13, *Hydrology and Water Quality*, future construction activities within the project area would be subject to compliance with the National Pollutant Discharge Elimination System (NPDES) permitting process if one or more acres of soil would be disturbed. Before Grading Permit issuance, each project applicant would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP), in order to control common pollutants such as suspended soil in stormwater runoff from leaving the project area. The SWPPP would include an Erosion Control Plan and appropriate Best Management Practices (BMPs). Following compliance with the established NPDES regulatory requirements, project implementation would result in a less than significant impact involving soil erosion or the loss of topsoil.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

UNSTABLE GEOLOGIC UNIT OR SOILS

GEO-3 THE PROPOSED DEVELOPMENT COULD BE LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE, OR THAT WOULD BECOME UNSTABLE AS A RESULT OF THE PROJECT, EXPOSING PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS ASSOCIATED WITH LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION, OR COLLAPSE.

Impact Analysis: The project area is not located within an area having the potential for landslide, lateral spreading, or liquefaction; refer to Section 8.0, *Effects Found Not To Be Significant*. Subsidence has been an ongoing issue within portions of the San Joaquin Valley and Kern County, and can be triggered by ground shaking. Typically, subsidence is caused by the withdrawal of large volumes of fluid, either water or oil. Subsidence experienced within the area has been mostly caused by the extraction of groundwater. Subsidence in the planning area and surrounding areas could cause maintenance problems on roads, concrete lined canals, and underground utilities. Future development associated with implementation of the project could result in increased demand for water, potentially resulting in increased groundwater pumping in the area. As such, it is possible that increased development of the project area and region in general, could increase the risk of subsidence within the City and surrounding area if groundwater pumping is significantly increased. Water districts within the San Joaquin Valley Groundwater Basin implement recharge programs and groundwater management plans.

Future development within the project area would be reviewed to determine potential geological constraints or impacts associated with the proposed development, including the potential for subsidence on a project-by-project basis (refer to Mitigation Measure GEO-1). All plans for individual development projects would be required to illustrate to the City Engineer compliance with the most current engineering standards and requirements of the City's Building Code (Mitigation Measure GEO-2). As such, potential adverse effects to people or structures

associated with subsidence would be mitigated through proper seismic design and conformance with the City's Building Code and CBC, and implementation of Mitigation Measures GEO-1 and GEO-2. Impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Policy SAF-2.1: Continue to incorporate geotechnical hazard data in future land use decision-making, site design, and construction standards.

Policy SAF-2.2: Adopt the latest version of the building codes adopted by the State of California and ensure implementation in all new construction and renovations.

Policy SAF-2.3: Require site-specific soils and/or geologic reports for development in areas where potentially serious geologic risks exist.

Policy SAF-2.4: Monitor and enforce mitigation measures to reduce risks for projects where seismic and geologic hazards can be mitigated and prohibit development in areas where seismic and geologic hazards cannot be mitigated.

Project Mitigation Measures: Refer to Mitigation Measure GEO-1 and GEO-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

EXPANSIVE SOILS

GEO-4 THE PROPOSED PROJECT COULD RESULT IN DEVELOPMENT THAT IS LOCATED ON EXPANSIVE SOIL CREATING SUBSTANTIAL RISKS TO LIFE OR PROPERTY.

Impact Analysis: Expansive soils are types of soil that shrink or swell as the moisture content decreases or increases. Expansive soils are largely comprised of clays, which expand in volume when water is absorbed and shrink as the soil dries. Structures built on these soils without mitigation may experience shifting, cracking, and tilting damage as the soils shrink or expand. Although clay soils are not typically found within the planning area or the project area, future development projects within the project area would be required to comply with Mitigation Measure GEO-1, which requires future development to determine potential geological constraints or impacts associated with the proposed development, including the presence of expansive soils on the site. All plans for individual development projects would be required to illustrate to the City Engineer compliance with the most current engineering standards and requirements of the City's Building Code (Mitigation Measure GEO-2). As such, potential adverse effects to people or structures associated with expansive soils would be mitigated through proper seismic design and conformance with the City's Building Code and CBC, and implementation of Mitigation Measures GEO-1 and GEO-2. Impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure GEO-1 and GEO-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.8.5 CUMULATIVE IMPACTS

GEO-5 THE PROPOSED PROJECT, COMBINED WITH OTHER RELATED CUMULATIVE PROJECTS, WOULD NOT EXPOSE PEOPLE OR STRUCTURES TO POTENTIAL SUBSTANTIAL ADVERSE EFFECTS INVOLVING GEOLOGY AND SOILS.

Impact Analysis: As concluded above, compliance with the CBC, City of McFarland Building Code, and Mitigation Measures GEO-1 and GEO-2 would ensure that future development associated with implementation of the proposed project would result in less than significant impacts involving geology and soils. Therefore, given that the project's potential impacts would be less than significant, and since the potential impacts would be contained to the project area, the project's incremental effects involving geology and soils are not cumulatively considerable. Moreover, the geotechnical and soil characteristics of each cumulative project site would be evaluated on a project-by-project basis, and appropriate mitigation measures would be required, as necessary to reduce potential impacts to a less than significant level. Further, all development would be required to comply with the CBC, the Municipal Code of each respective jurisdiction, and the recommendations of the site-specific geotechnical and soils investigations, if required.

As concluded above, project implementation would result in a less than significant impact involving soil erosion or the loss of topsoil, following compliance with NPDES requirements. Therefore, the project's incremental effects involving erosion and loss of topsoil are not cumulatively considerable. Although, cumulative development would result in ground-disrupting activities that would temporarily disturb soils, all construction activities would be subject to compliance with the established regulatory requirements (i.e., NPDES and respective municipal codes), which would ensure a less than significant impact involving soil erosion or the loss of topsoil would occur.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure GEO-1 and GEO-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.8.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Geology and soils impacts associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies and recommended mitigation measures. No significant unavoidable impacts to geology and soils would occur as a result of project implementation.

Section 5.9
Cultural Resources

5.9 CULTURAL RESOURCES

The purpose of this section is to examine the potential for cultural resources (including historic, prehistoric, and paleontological) to occur within and around the project area and to assess their significance. Mitigation measures are recommended to minimize impacts to cultural resources as a result of project implementation. The information in this section is based on the following documentation: *McFarland General Plan* (General Plan); *McFarland General Plan Program Environmental Impact Report* (General Plan EIR), *Kern County General Plan* (County General Plan), and the *Cultural Resources Records Search Results for the McFarland General Plan Amendment EIR* (Cultural Resources Memorandum) prepared by Rincon Consultants, Inc., January 5, 2016.

5.9.1 EXISTING SETTING

HISTORICAL RESOURCES

Historic Background

KERN COUNTY[1]

For 250 years, Spain had done little to develop the territory of Alta California. By 1765, Russian seal hunters on the coast were perceived as an encroachment. A chain of Franciscan missions along the coast was planned, but a reliable supply route needed to be established. Thus, Father Francisco Garces was assigned to explore a more direct route from Yuma to Monterey. He established good relations with the Indians, and in 1776 explored the Kern River area utilizing the Tejon Creek and Oak Creek passes.

Hostile Indians in the central valley had deterred development there, but once the Indians acquired Spanish horses they were able to raid the coastal settlements of Alta California from over the Coast Ranges. The government of New Spain was pressed for the establishment of missions and forts in the interior valley: this sparked much of the early exploration of the area. However, the Napoleonic invasion of Spain, and Mexico's Declaration of Independence cut off any further support for the project.

In 1827, Jedediah Strong Smith and his band of fur trappers stumbled out of the Mojave Desert into the Mission San Gabriel, located in what is now Los Angeles County. Governor Jose Echeandia was inclined to arrest them as American spies, but in the end simply ordered them to leave the way they came. Smith detoured in search of water, and discovered the southern San Joaquin Valley instead. A year later, in return for the rescue of his person and goods from a murderous band of Northwest Indians, Smith turned over his journals and maps to the Hudson Bay Company at Fort Vancouver, who promptly undertook and sponsored extensive trapping all the way south to the Kern River and beyond. The waning demand for beaver pelts did not deter Captain B. L. Bonneville from recruiting mountain man Joseph Reddeford Walker to explore the west coast in 1833. He discovered a pass in the Greenhorn Mountains which was to become known as Walker Pass. His journals and maps not only inspired the writing of a book by Washington Irving, but a large number of emigrants to the West as well.

[1] Kern County Revised General Plan Update, Recirculated Draft Program EIR, January 2004.

Following an 1843 expedition to map the Oregon Trail, John Charles Fremont of the U.S. Topographical Corps explored the western boundary of the Sierra Nevada until he reached the Kern River. His reports and maps of the area served as a further stimulus to immigration. His next expedition, in 1845, included a young artist named Edward Meyer Kern. Fremont was so impressed with Kern's mapping of the Kern River that he gave it his name. In 1846, American settlers in California rebelled against government by Mexico, and in 1848 the Treaty of Guadalupe Hidalgo made California a U.S. territory.

In February 1860, a German blacksmith named Christian Bohna arrived from Arkansas and installed his family in an abandoned hunting hut on the Kern delta. Other settlers soon followed, and the little community of Kern Island thrived until 1861 when a flood diverted the river and caused Bohna and some of the other settlers to pack up. Bohna sold his land to a Colonel Thomas Baker from Ohio for 200 dollars.

Colonel Thomas Baker acquired a large tract of State-owned swamp land under the condition that he drain and reclaim it. He was unsuccessful in obtaining loans to complete the project, but in 1867 a flood again diverted the river and drained the swamp land for him. He then built a system of dams and levees to control the waters in the future. For this purpose, Baker fenced off ten acres of alfalfa, which became known as "Baker's field". Colonel Baker was named surveyor by the first Board of Supervisors, and set about redirecting river water to the drained swamps as well as the surrounding alkali desert to create arable farmland. He also set about surveying a formal townsite, and the community agreed on the name "Bakersfield". In 1872, Colonel Baker died in a typhoid epidemic, a year too soon to see Bakersfield become the new County seat over Havilah.

CITY OF MCFARLAND

McFarland was first homesteaded in the 1860s and in 1874 the Southern Pacific and Central Pacific Railroads extended tracks from Delano to Sumner, east of Bakersfield. James Boyd McFarland discovered the area in 1907 when it was called Hunt's Siding and it was mostly made up of livestock pens and some families. McFarland came to California from Zanesville, Ohio and liked McFarland's thriving agriculture. He enlisted William Laird, a prominent real estate businessman and banker in Bakersfield, to purchase of the original townsite which was subsequently named McFarland in 1908. In 1957 the City of McFarland incorporated.

Historic Structures

National Historic Landmarks (NHL) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. There are no NHL located within the project area and the City of McFarland.[2] The National Register of Historic Places (NRHP) is the official list of the Nation's historic places worthy of preservation. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. There are no NRHP listings located within the project area and the City of McFarland.[3] However, the Friant-Kern Canal, located outside

[2] National Park Service National Historic Landmarks Program, *Listing of National Historic Landmarks By State,* http://www.nps.gov/nhl/find/statelists/ca/CA.pdf, accessed November 6, 2015.

[3] National Register of Historic Places Program, *National Register of Historic Places: Listed Properties,* as of July 2015.

the project area, has been determined eligible for the NRHP and is listed in the California Register of Historical Resources (CRHR).

California Historical Landmarks (CHL) are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. There are no CHL located within the project area and the City of McFarland.[4] The California Register of Historical Resources (CRHR) includes buildings, sites, structures, objects, and districts significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. There are no California Register listings located within the project area and the City of McFarland.[5] However, as noted above, the Friant-Kern Canal, located outside of the project area, is listed in the CRHR.

ARCHAEOLOGICAL RESOURCES

Kern County

GEOMORPHOLOGIC AREAS

The dominant geomorphologic features of the region can be used to separate the valley into north-south longitudinal sectors: the alluvial slopes on the eastern side of the valley that are cut by numerous rivers and streams and the lakes (Tulare, Buena Vista, and Kern) with their associated system of streams and sloughs.

Central Sector

This area constitutes the central sector of the southern valley. Up until the latter part of the nineteenth century, the Kern River, which flows into the valley from the Sierra Nevada in a westerly and southwesterly direction, drained into Kern, Buena Vista, and Tulare lakes. All of these bodies of water were connected by an extensive network of streams and sloughs, only remnants of which can be found today. Each of the lakes were very shallow and subject to dramatic increases or decreases in size depending on the yearly rainfall and the snowpack in the Sierra Nevada. In ancient times or during extremely wet periods, Kern and Buena Vista lakes were most likely one lake of approximately eighty square miles in area and it is known that on occasion such as the wet years of 1890 and 1938, the entire area from the Tehachapis to Lemoore was almost completely covered with water. In 1862, a particularly wet year, the course of the Kern River was altered so that it bypassed the inlet to Kern Lake. As a result, Kern Lake began to recede and eventually dried. This desiccation was aided by the agricultural channelization of the Kern River that was beginning to take place. This channelization ultimately would be the demise of all the lakes in the southern San Joaquin Valley. However, up until the 1860s, the abundance of aquatic and terrestrial resources in this sector attracted numerous aboriginal inhabitants who occupied the lakeshores and lands adjacent to the many streams and sloughs.

[4] State of California Office of Historic Preservation, *California Historical Resources,* http://ohp.parks.ca.gov/listedresources/, accessed November 6, 2015.
[5] Ibid.

CULTURAL BACKGROUND

The Indians of Kern County are of three major linguistic stocks. These language stocks allow us to categorize the Kern County Indians into three major tribal groupings: the Yokuts of the San Joaquin Valley and foothills; the Chumash of the Coastal Ranges; and Shoshonean tribes, from the Uru-Aztekan language family, in parts of the Sierra Nevada Range and the eastern desert areas of Kern County.

TRIBES OF KERN COUNTY

The consensus among ethnographers is that the Yokuts occupied the entire San Joaquin Valley as well as the foothills of the western slope of the Sierra Nevada. Predicated on cultural and environmental differences, they are generally recognized as having three subgroups: the Southern Valley, Northern Valley, and Foothill Yokuts. Each was comprised of a number of distinct tribes or tribelets. The Southern Valley Yokuts ranged from just north of Tulare Lake to the southern end of the valley at the Tehachapi Mountains and from the lowest reaches of the southern Sierra Nevada and foothills of the Tehachapi Mountains on the east to the base of the Coastal Ranges on the west.

Yokuts Tribe

The name Yokuts means “Indian” or “Indians” in their own language according to Stephen Powers, the man who assigned the name in 1873. What makes the Yokuts different from other groups of California Indians is that they are divided into true tribes or tribelets. Kroeber, arbitrarily, assigned the term tribe to larger groups, with the average American Indian tribe containing approximately two to four thousand members. The population of Yokuts tribes generally was in the hundreds and they are often referred to as tribelets. Three criteria are applied when determining whether or not a group has achieved tribal status: it must have 1) a distinctive name; 2) a distinctive dialect; and 3) a distinctive territory. Most California groups were only able to identify themselves by the name of the place they inhabited and the majority of them shared their dialect with neighboring groups. The third criterion, territory or land ownership, was however, the norm amongst most native California groups.

The group that inhabited Kern Lake and its environs were the Hometwoli, or “the Southerners” with whom three villages also were associated. Kern Slough separated Buena Vista Lake from Kern Lake and on this Slough was located the village of Halau. Hala is the Yokuts word for the sugar cane or dwarf bamboo that grew abundantly in the area. Loasau was a village on the north side of Kern Lake and Pohalin Tinliu was located south of the lake. The Inland Chumash occupied the mountains to the south of the Hometwoli. North of the Buena Vista basin, and primarily on the eastern side of Buena Vista Slough, were found the Tuholu. Their home included the lower Kern River area and the complex consisting of Buena Vista, Bull, Jerry, and Goose Lake sloughs. Little is known about this group. They utilized the tule reeds that proliferated in the area for every conceivable purpose, including food, shelter, clothing, fuel, and transportation. Three Tuhohi settlements, with associated cemeteries, were noted in the literature as an extensive array of Indian mounds.

Eastern Sector

The remaining three tribelets inhabiting the southern valley were located in the eastern sector. The northernmost of these were the Koyeti, who ranged from Wowol territory, around Tulare Lake, east to present-day Porterville. The principal Koyeti village, Choko Weshau, was on the

north bank of the Tule River. Approximately ten additional villages were established throughout the area. Most were near the rivers and creeks that flowed throughout this sector. The Koyeti were completely surrounded by other Yokuts tribelets. South of the Koyeti were the Paleuyami who sometimes were referred to as the Poso Creek Yokuts. A portion of their territory was in the lower foothills just north of the mouth of Kern River Canyon. Their southern boundary was probably the Kern River although the Paleuyami and the Yauelimani freely passed back and forth from one tribe's property to the other. In the mountains to the east lived the Tuebatulabal. Altau (salt grass place) was the most significant of the five Paleuyami villages. It was located adjacent to Poso Creek and survived into the historic period, becoming known as Rancheria. The Yauelimani inhabited a strip of the southeastern San Joaquin Valley from just north of the Kern River to the Tehachapi Mountains on the south and from the mountains on the east to approximately the old south fork of the Kern River on the west. Their eastern neighbors were the Kawaiisu and the Inland Chumash shared their southern border. The Yauelimani were the widest ranging of all the Yokuts and their territory covered nearly 350 square miles. Their most prominent village, Woilo (planting place or sowing place), was located where the Bakersfield Amtrak Depot stands today. The Kern River flowed past Woilo and there was a second, unnamed village across the river on the west bank. All of the remaining half dozen or so Yauelimani villages were located at various points along the river. A significant point was the waterfall near the mouth of Kern River Canyon. This is said by informants to have been a sacred fishing location.

Chumash

Coast Ranges. The archaeological record from the Coast Ranges within Kern County and the western-most tip of the Tehachapi has not been well recorded. With the exception of casual surveys resulting in an occasional site being recorded, few reports, excavations, or in-depth studies have been undertaken. And for the work that has taken place, only a fraction of the data has been written up. A review of the site records indicates the potential significance of more intensive investigations as some of the most impressive pictographs in North America are located in this region in addition to villages, rock shelters, milling sites and sacred places. The western and southwestern portions of Kern County are quite distinct from each other and would be divided into two subsections: 1) Temblor Range (Western Kern County); and 2) Coast Range and western tip of Tehachapi Mountains (South, Southwest Kern County). These two areas comprise the territory ascribed to the Interior Chumash with the Cuyama Chumash occupying the first area and the Castac Chumash occupying the latter area. The territory of the Castac Chumash includes the southwestern portion of Kern County consisting of the upper foothills of the Coast Range from just above Maricopa where the Temblor Range ends, along the southern boundary of Kern County to Interstate 5 where the Tehachapi Mountains begin.

Temblors (including the western slope of the Telephone Hills). While several archaeological sites have been recorded in the Temblor Range, there is no record of any systematic excavation having taken place. And, with the exception of Environmental Impact Reports, no in-depth or comprehensive surveys are suggested by the site records filed for this region. The Temblors are a low-lying mountain range characterized as having little available water, game animals or abundant biotic resources. Apparently unchanged for a considerable amount of time, most portions of this region were generally unsuitable for settlement. The kind of activities most suitable would be special purpose in nature, exploiting localized resources. Occupation (in most cases) would be of short duration. A review of the site records supports this assessment as most sites are small and can be typed according to function, activity, or available resource. Very few sites appear to warrant village status. Some of the most impressive known sites in Cuyama territory are rock art sites where Chumash rock paintings reached their highest

development. The pictograph style of the Chumash appears to have its origins with the petroglyphs of the Numic speaking peoples of the Great Basin who influenced Yokuts rock art styles and who in turn gave the Chumash their rock painting tradition. Most of the large sites are located in San Luis Obispo County; however, there are several pictograph sites in the Temblor Range portion of Kern County.

Hokan Languages. Occupying the western and southernmost portions of Kern County were the Hokan-speaking Chumash Indians. There were at least six Chumash languages, including Ventureno, Barbareno, Ynezeno, Purisimeno, and Obispeno. While the Castac Chumash are believed to have spoken Ventureno, it is uncertain if the Cuyama Chumash spoke one of the other five languages or a totally unique dialect. A third group, the Emiqdiano is identified and it is suggested they spoke Barbareno. The Indians occupying "Emiqdiano" territory were in fact Castac Chumash and that the confusion was based on a few vocabulary words from an informant residing in the San Emigdio area. Precise dates for the earliest Chumash presence in Kern County has not been firmly established. Early occupants of Buena Vista Lake, dated approximately 8500 BP, were Hokan speakers, the forerunners of the historic Chumash. Using archaeological data, Hokan speakers were replaced by the Penutian speaking Yokuts approximately 4,000 years ago.

Interior Chumash

The territory of the Interior Chumash included portions of Kern, Los Angeles, San Luis Obispo, Santa Barbara and Ventura counties. The Cuyama region is bounded on the north by the mountains separating the drainage of the Salinas and Cuyama Rivers, on the south by the crest of the San Rafael Mountains, on the west by the Coast Ranges and on the east by the Temblor Range and the mountains dividing the watersheds of the Cuyama and Santa Clara Rivers. Within Kern County their territory was limited to the Temblor Range. It is not known how far east into the Temblors they extended. However, it is suggested that while they may have traveled freely through the Temblors, their territory proper ran westward from the crest of these hills. The Castac (and Emigdiano) region extended from Castac Lake along the drainage of Pastoria Creek in the Tehachapi Mountains on the east, on the north defined by a line drawn roughly from Grapevine to the Mount Abel Road and including all the north flowing streams from the Mount Abel-Tecuya Mountain Region. To the south their territory extends an unknown distance into Los Angeles County and on the west they border the Cuyama Chumash.

Kawaiisu

Information on the aboriginal life of the Kawaiisu is unsystematic and scattered in a number of papers. The Kawaiisu occupied a territory which included the southern end of the Sierra Nevada range and extended westward toward the San Joaquin Valley and eastward into the Mojave Desert. These tribal borders are vague and difficult to delineate. The core area for the Kawaiisu is said to have been the southern Sierra Nevada and Tehachapi Mountains.

Kitanemuk

Until recently very little information was available on the Kitanemuk. The Kitanemuk were located principally in the Tehachapi Mountains at the southern end of the San Joaquin Valley. They most likely shared territory with the Tatavium in the western Antelope Valley, though this is uncertain.

Panamint Shoshone

The Little Lake Shoshone also called Coso or Panamint Shoshone are only modestly treated within ethnographic accounts on Great Basin peoples. The territory of the Panamint Shoshone was a portion of the western Great Basin extending from the Sierra Nevada on the west to the Armagosa desert of Nevada on the east and from Owens Valley southward to an area in the south most likely shared with the Kawaiisu and other Southern Paiute groups. They would have occupied a small portion of northeastern Kern County.

Tuebatulabal

Tuebatulabal territory has been determined to include the region which was naturally drained by the Kern River including the area from the river's source near Mount Whitney to the end of Kern Canyon northeast of Bakersfield. The eastern boundary runs along the Sierra Nevada crest south to Walker Pass and then along the crests of the Kiavah and Paiute mountains southwest to the San Joaquin Valley. There has been some question concerning the Tuebatulabal-Kawaiisu border.

City of McFarland

RECORDS SEARCH

On December 18, 2015, Rincon conducted a records search of the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield. The search was conducted to identify all previous cultural resources work and previously recorded cultural resources within a 200-foot radius of the project site. The CHRIS search included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, the California State Historic Resources Inventory list, and the Office of Historic Preservation (OHP) Historic Property Directory. Eligibility status was determined from the resource codes provided on the OHP Historic Properties Directory. The results of the records search are discussed below and can be found in Attachment A of the Cultural Resources Memorandum.

The records search identified 14 previously conducted studies and 14 cultural resources within the project site and 200-foot buffer. All of the cultural resources are built environment and were constructed during the 20th century. One resource, the Friant-Kern Canal has been previously determined eligible for the CRHR and NRHP.

The Friant-Kern Canal was constructed in 1951 as part of the federal Central Valley Project. The canal is 152-miles long and conveys water to Fresno, Kern, and Tulare counties and is located adjacent to the project site. The water delivered by the canal to the Central Valley helps to support the valley's major agricultural crops including alfalfa, corn, grains, grapes, vegetables, fruits, and nuts. The Friant-Kern Canal is determined eligible for the NRHP and is listed in the CRHR.

PALEONTOLOGICAL RESOURCES

Kern County

During the Quarternary age, several large and small lakes occupied the southern portion of the San Joaquin Valley. The present surface extent of these lakes is reflected in the remnants of Buena Vista Lake, Kern Lake, and Tulare Lake. In the past, these lakes fluctuated in size with climate changes. Wet seasons resulted in expansion of lakes; droughts resulted in the shrinking of the lakes. During the Pleistocene age (1.8 million years to 10,000 years ago) there was a diverse assemblage of large and small animals living along the shores of these lakes. As a result, lake deposits in this area have produced the remains of numerous species of extinct animals such as elephants, camels, sloths, horses, a variety of rodents, turtles, and amphibians.

Kern County is rich in paleontological resources. Of particular note is the Maricopa and Citric Brea Tar Pits (the latter is at Historical Landmark 498), the Bean Hills Petrified Forest and Shark tooth Hill at Round Mountain. The latter is a source of many aquatic animals. This fossil assemblage, called the Sharktooth Hill Local Fauna (Wood et al., 1941), is comprised of more than one hundred species of sharks, rays, bony fish, turtles, birds and mammals, including terrestrial species from the adjacent Miocene land mass (south of where Bakersfield currently is located). The “Round Mountain Silt Formation” covers approximately 110 square miles. The Sharktooth Hill Bonebed is a single, relatively thin, but widespread horizon -- this fossil producing layer is only 6-18” thick (with some exceptions). It has been correlated with the Barstovian North American Land Mammal Age and is approximately 13 and 15 million years old.

City of McFarland

Based on the General Plan EIR, there are no known paleontological resources on the project site or in the surrounding area. However, it is possible that currently unknown or undiscovered paleontological resources occur within the area.

SACRED LANDS

The Native American Heritage Commission (NAHC) performed a Sacred Lands File search of the project area in September 2015. A negative search result was received; refer also to the Regulatory Setting discussion below.

5.9.2 REGULATORY SETTING

Numerous laws and regulations require Federal, State, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (i.e., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended, the California Environmental Quality Act (CEQA), and the California Register, Public Resources Code (PRC) 5024, are the primary Federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance. The applicable regulations are further discussed below.

FEDERAL

National Historic Preservation Act of 1966

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the Federal, State, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP or National Register), established the position of State Historic Preservation Officer (SHPO) and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage and created the Advisory Council on Historic Preservation (ACHP).

Section 106 Process

Through regulations associated with the NHPA, an impact to a cultural resource would be considered significant if government action will affect a resource listed in or eligible for listing in the National Register. The NHPA codifies a list of cultural resources found to be significant within the context of national history, as determined by a technical process of evaluation. Resources that have not yet been placed on the National Register, and are yet to be evaluated, are afforded protection under the Act until shown to be not significant.

Section 106 of the NHPA and its implementing regulations (36 Code of Federal Regulations Part 800) note that for a cultural resource to be determined eligible for listing in the National Register, the resource must meet specific criteria associated with historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the National Register are applied within an analysis when there is some question as to the significance of a cultural resource. The criteria for evaluation are defined as the quality of significance in American history, architecture, archeology, engineering, and culture. This quality must be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- *Criterion A*: It is associated with events that have made a significant contribution to the broad patterns of our history; or
- *Criterion B*: It is associated with the lives of persons significant in our past; or
- *Criterion C*: It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- *Criterion D*: It has yielded, or may be likely to yield, information important in prehistory or history.

Criterion (D) is usually reserved for archaeological resources. Eligible cultural resources must meet at least one of the above criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

The Section 106 evaluation process does not apply to projects undertaken under City environmental compliance jurisdiction, however, should the undertaking require funding, permits or other administrative actions issued or overseen by a federal agency, analysis of potential impacts to cultural resources following the Section 106 process will likely be necessary. The Section 106 process typically excludes cultural resources created less than 50 years ago unless the resource is considered highly significant from the local perspective. Finally, the Section 106 process allows local concerns to be voiced and the Section 106 process must consider aspects of local significance before a significance judgment is rendered.

Secretary of the Interior's Standards for the Treatment of Historic Properties

Evolving from the *Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards* that were developed in 1976, the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* were published in 1995 and codified as 36 CFR 67. Neither technical nor prescriptive, these standards are "intended to promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources." "Preservation" acknowledges a resource as a document of its history over time, and emphasizes stabilization, maintenance, and repair of existing historic fabric. "Rehabilitation" not only incorporates the retention of features that convey historic character but also accommodates alterations and additions to facilitate continuing or new uses. "Restoration" involves the retention and replacement of features from a specific period of significance. "Reconstruction," the least used treatment, provides a basis for recreating a missing resource. These standards have been adopted, or are used informally, by many agencies at all levels of government to review projects that affect historic resources.

STATE

California Environmental Quality Act

As defined in CEQA Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of CEQA Section 21083, which covers a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects

of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15-64.5[c][4]).

California Register of Historical Resources

Created in 1992 and implemented in 1998, the California Register is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change". Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR.

The California Register consists of properties that are listed automatically, as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.

The criteria for eligibility of listing in the California Register are based upon National Register criteria, but are identified as 1 to 4 instead of A to D. To be eligible for listing in the California Register, a property must be at least 50 years of age and possess significance at the local, state, or national level, under one or more of the following four criteria:

- *Criterion 1*: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- *Criterion 2*: It is associated with the lives of persons important in our past.
- *Criterion 3*: It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- *Criterion 4*: It has yielded, or may be likely to yield, information important in history or prehistory.

Historical resources eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. Resources less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance. While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance.

California Points of Historical Interest

California Points of Historical Interest (Points) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental or other value. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a landmark and a "point". If a point is subsequently granted status as a landmark, the point designation will be retired. There are no Points located in the City of McFarland.

To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only or most significant of its type within the local geographic region (city or county);
- Associated with an individual or group having a profound influence on the history of the local area; or
- A prototype of, or an outstanding example of, a period, style, architectural movement, or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

State Historical Building Code

Created in 1975, the State Historical Building Code (SHBC) provides regulations and standards for the preservation, restoration, rehabilitation, or relocation of historic buildings, structures, and properties that have been determined by an appropriate local or State governmental jurisdiction to be significant in the history, architecture, or culture of an area. Rather than being prescriptive, the SHBC constitutes a set of performance criteria. The SHBC is designed to help facilitate restoration or change of occupancy in such a way as to preserve original or restored elements and features of a resource; to encourage energy conservation and a cost-effective approach to preservation; and to provide for reasonable safety from earthquake, fire, or other hazards for occupants and users of such "buildings, structures, and properties". The SHBC also serves as a guide for providing reasonable availability, access, and usability by the physically disabled.

Government Code
(Section 65352.3, Senate Bill 18/Sacred Lands File Search)

Pursuant to Government Code Section 65352.3, prior to the adoption or any amendment of a city or county's general plan (proposed on or after March 1, 2005), the city or county shall conduct consultations with California Native American tribes that are on the contact list maintained by the Native American Heritage Commission (NAHC) for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that are located within the city or county's jurisdiction.

The NAHC conducted a Sacred Lands File search in September 2015, and determined that no Native American cultural resources are identified within the project area. However, it is noted that records maintained by the NAHC and CHRIS is not exhaustive and a negative response to these searches does not preclude the existence of a cultural place. The NAHC provided a Tribal Consultation List for the area. Correspondence was sent to each of the tribal contacts regarding the project. To date, no response has been received.

Assembly Bill 52

On September 25, 2014, Governor Brown signed Assembly Bill 52 (AB 52), which amends CEQA (PRC Section 21000, et seq.) to include a new category of "tribal cultural resources". The law requires lead agencies to consider tribal cultural values in their environmental documents, in addition to the scientific and archaeological values that must be evaluated under preexisting provisions of CEQA, when determining impacts and mitigation. The requirements of AB 52 apply to a project for which a notice of preparation of an environmental impact report (EIR) or a notice of negative declaration or mitigated negative declaration was filed on or after July 1, 2015 (PRC Section 21084.3 (c)).

AB 52 requires that, by July 1, 2016, NAHC must provide the tribes on its contact list with a list of all public agencies that may serve as a lead agency for projects within the geographic area within which the tribe is traditionally and culturally affiliated. NAHC must also inform these tribes how to request that public agencies notify the tribes about projects for the purposes of requesting consultation.

Where a tribe requests, in writing, that a public agency inform it of proposed projects, the lead agency must notify the tribe within 14 days of determining that a project application is complete or deciding to undertake a project (i.e., prior to the release of the environmental document). If the tribe responds by requesting consultation, in writing, within 30 days of the notification, the lead agency must begin the consultation process within 30 days of receiving the request.

Consultation may concern the level of environmental review necessary; the significance of a tribal cultural resource and of a project's impact on that resource; and project alternatives and/or mitigation, including those recommended by the tribe. During consultation, lead agencies must also follow certain confidentiality requirements concerning the tribal cultural resources at issue. Consultation ends when 1) the lead agency agrees to incorporate the mitigation requested by the tribe into the CEQA document (if a significant effect exists), or 2) the tribe or the lead agency conclude that agreement cannot be reached. If no agreement is reached, the lead agency must still consider feasible mitigation based on the standards in the statute.

To date, no tribes have requested consultation pursuant to AB 52.

California Health and Safety Code (Section 7050.5)

California Health and Safety Code Section 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death. If the coroner determines that the remains are

not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

California Health and Safety Code (Section 5097.98)

Section 5097.98 of the California Public Resources Code stipulates that whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

CITY OF MCFARLAND

McFarland General Plan

OPEN SPACE, CONSERVATION, AND RECREATION ELEMENT

The purpose of the Open Space, Conservation, and Recreation Element is for the long range preservation of open space and recreational land through the discussion of vital considerations, resources, plan action strategies, future open space and conservation plan, and goals. The Element includes policy direction to conserve McFarland's open space areas as unique natural and cultural environments.

5.9.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The purpose of this analysis is to identify any potential cultural resources within or adjacent to the project area, and to assist the Lead Agency in determining whether such resources meet the official definitions of "historical resources", as provided in the Public Resource Code, in particular CEQA.

SIGNIFICANCE GUIDELINES

Historical Resources

Impacts to a significant cultural resource that affect characteristics that would qualify it for the NRHP or that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines, Section 15064.5 [b][1], 2000). Material impairment is defined as demolition or alteration "in an adverse manner [of] those characteristics of an historical resource that

convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register" (CEQA Guidelines Section 15064.5[b][2][A]).

Archaeological Resources

A significant prehistoric archaeological impact would occur if grading and construction activities would result in a substantial adverse change to archaeological resources determined to be "unique" or "historic". "Unique" resources are defined in Public Resources Code Section 21083.2; "historic" resources are defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15126.4.

Public Resources Code Section 21083.2(g) states:

> *As used in this section, "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*
>
> 1. *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;*
> 2. *Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or*
> 3. *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Paleontological Resources

An impact on paleontological materials would be considered a significant impact if the project results in the direct or indirect destruction of a unique or important paleontological resource or site. The following criteria are used to determine whether a resource is unique or important:

- The past record of fossil recovery from the geologic unit(s);
- The recorded fossil localities in the project site;
- Observation of fossil material onsite; and
- The type of fossil materials previously recovered from the geologic unit (vertebrate, invertebrate, etc.).

CEQA SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5; refer to Impact Statement CUL-1.

- Cause a substantial adverse change in the significance of an archaeological resources pursuant to Section 15064.5; refer to Impact Statement CUL-1.

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; refer to Impact Statement CUL-1.

- Disturb any human remains, including those interred outside of formal cemeteries; refer to Impact Statement CUL-2.

Based on these standards/criteria, the Project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact". If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards, or mitigation, it is categorized as a "significant and unavoidable impact".

5.9.4 IMPACTS AND MITIGATION MEASURES

HISTORICAL, ARCHAEOLOGICAL, AND PALEONTOLOGICAL RESOURCES

CUL-1 FUTURE DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROJECT COULD IMPACT HISTORICAL, ARCHAEOLOGICAL, OR PALEONTOLOGICAL RESOURCES.

Impact Analysis: There are no known historical, archaeological, or paleontological resources located within the project site. A majority of the project area is undeveloped. According to the records search conducted for the project area, the Friant-Kern Canal is located adjacent to the project area and is considered eligible for the NRHP and is listed on the CRHR. Project implementation would not result in modifications or physical alteration of the Friant-Kern Canal. The remaining 13 identified resources are located within the project area and consist of single-family residences and residential rehabilitation buildings. All of these resources have been determined ineligible for listing on the CRHR and NHRP.

The project proposes to amend the General Plan Land Use Element to include two new land use designations and to amend the Land Use map to establish land use designations within a portion of the City's SOI and to change land use designations for several parcels within the City's incorporated limits. Although future development is anticipated, site-specific development is not currently proposed. All future development projects within the project area would be required to comply with all applicable Federal, State, and local regulations concerning the preservation of historic, archaeological, and paleontological resources, including CEQA compliance on a project-by-project basis. Potential impacts to cultural resources would be further reduced with implementation of Mitigation Measure CUL-1, which would require future development projects for properties considered sensitive for cultural resources by the City to conduct a Phase I Cultural Resources Study, which would require implementation of measures to reduce potential impacts, if any. Further, implementation of Mitigation Measure CUL-2 would require monitoring by an archaeologist, as necessary, to ensure implementation of feasible measures identified as part of Mitigation Measure CUL-1. Mitigation Measure CUL-3 would address unknown cultural resources that are inadvertently unearthed during construction activities. CUL-3 requires activity to cease to evaluate the significance of the findings and determine an appropriate course of action. Compliance with the identified mitigation measures would reduce potential impacts to cultural resources associated with implementation of the project to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 3: Provide for environmentally sound community development in McFarland.

Policy 3-a: Consistently analyze Environmental Review documents and submit appropriate comments.

Policy 3-b: Regularly review Environmental Review procedures.

Project Mitigation Measures:

CUL-1 Future development projects for properties considered to be sensitive for cultural resources by the City of McFarland shall conduct a Phase I Cultural Resources Study of the subject property by a qualified professional, which shall be submitted to the City of McFarland for review and approval. The Phase I Cultural Resources Study shall determine where the subject development project would potentially cause a substantial adverse change to any significant archaeological, paleontological, or historic resources. The Phase I Cultural Resources Study shall be prepared to meet the standards established by the City and shall, at a minimum, including the results of the following:

1. Records searches at the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, the National or State Registry of Historic Places, and any appropriate public, private, and tribal archives.

2. Sacred Lands File records search with the Native American Heritage Commission (NAHC), followed by project scoping with the tribes recommended by the NAHC.

3. Field survey of the subject development site.

Feasible measures shall be identified in order to mitigate the known and potential significant effects of the subject development project, if any.

CUL-2 If the Phase I Cultural Resources Study required under Mitigation Measure CUL-1 determines that monitoring during construction by a professional archaeologist and/or paleontologist is needed for the subject development project, the project proponent shall retain a professional archaeologist and/or paleontologist, subject to approval by the City of McFarland, prior to the issuance of grading permits. The task of the professional archaeologist and/or paleontologist shall be to verify implementation of the mitigation measures identified in the City-approved Phase I Cultural Resources Study and to monitor the initial ground-altering activities, including but not limited to, debris removal, vegetation removal, tree removal, grading, trenching, or other site preparation activities. The professional archaeologist and/or paleontologist shall be empowered to temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. All artifacts and/or fossils discovered at the subject development site shall be

inventoried and analyzed by the professional archaeologist and/or paleontologist. If any artifacts of Native American origin are discovered, a Native American Tribal monitor shall be asked to help analyze the Native American artifacts for identification as everyday life and/or religious or sacred items, cultural affiliation, temporal placement, and function, as deemed possible.

A report of the findings, including an itemized inventory of recovered artifacts and/or fossils, shall be prepared and shall include a discussion of the significance and disposition of the recovered artifacts and/or fossils. The report and inventory shall be submitted to the City of McFarland, signifying completion of the program to mitigate impacts to archaeological and/or paleontological resources.

CUL-3 In the event that cultural resources (archaeological, historical, paleontological) resources are inadvertently unearthed during excavation and grading activities of any future development project, the contractor shall immediately cease all earth disturbing activities within a 100-foot radius of the area of discovery. If not already retained due to conditions present pursuant to CUL-2, the project proponent shall retain a qualified professional (i.e., archaeologist, historian, architect, paleontologist, Native American Tribal monitor), subject to approval by the City of McFarland, to evaluate the significance of the finding and appropriate course of action (refer to Mitigation Measures CUL-1, CUL-2 and CUL-4). If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the CEQA Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

HUMAN REMAINS

CUL-2 PROJECT IMPLEMENTATION COULD DISTURB HUMAN REMAINS, INCLUDING THOSE INTERRED OUTSIDE OF FORMAL CEMETERIES.

Impact Analysis: Although unlikely, given the history of Native American's and their presence throughout McFarland and the region, there is the potential for human remains, including those interred outside of formal cemeteries, to be encountered during earth removal or disturbance activities resulting from project implementation.

The Native American Graves Protection and Repatriation Act within the State of California, is enacted by the California Native American Historical, Cultural and Sacred Sites Act, and applies to Federal, State, and private lands. Upon discovery of human remains, the activity ceases and the County Coroner shall be notified. If the remains are of a Native American, the coroner notifies the Native American Heritage Commission (NAHC), which then notifies the mostly likely descendants. The NAHC is directed to prepare an inventory of Native American Sacred Places on public lands. It is illegal for anyone to knowingly or willfully possess or obtain any Native American artifacts or human remains from a Native American grave or cairn. Any person who removes, without authority of law, Native American artifacts or human remains from a Native American grave or cairn with the intent to sell or dissect such remains is guilty of a felony punishable by imprisonment in a Federal or State prison.

If human remains were found, those remains would require proper treatment, in accordance with applicable laws. State of California *Public Resources Health and Safety Code* Sections 7050.5-7055 describe the general provisions for human remains. Specifically, H*ealth and Safety Code* Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. In addition, the requirements and procedures set forth in *California Public Resources Code* Section 5097.98 would be implemented. If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains.

Following compliance with State regulations, which detail the appropriate actions necessary in the event human remains are encountered, and compliance with Mitigation Measure CUL-4, impacts in this regard would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures:

CUL-4 In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to State Health and Safety Code Section 7050.5, no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendant of the deceased Native American, who shall serve as consultant on how to proceed with the remains.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.9.5 CUMULATIVE IMPACTS

CUL-3 POTENTIAL DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO CULTURAL RESOURCES.

Impact Analysis: Future development projects in the City of McFarland, Kern County, and the region may encounter cultural resources. It is possible that undiscovered archaeological, paleontological, and/or historic resources could be impacted by future development anticipated by the proposed project. Further, it is possible that cumulative development could result in the adverse modification or destruction of archaeological, paleontological, and/or historic resources. Potential cultural resource impacts associated with the development of individual projects would be specific to each site. All new developments would be required to comply with existing Federal, State, and local regulations concerning the protection of archaeological, paleontological, and historic resources on a project-by-project basis. Additionally, implementation of the specified mitigation measures would reduce potential project impacts to

undocumented historic, archaeological, and paleontological resources and human remains to less than significant levels. Therefore, the combined cumulative impacts to cultural resources associated with the project's incremental effects and those of the cumulative projects would be less than significant.

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures CUL-1 through CUL-4.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.9.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts to cultural resources resulting from project implementation would be less than significant following compliance with the existing regulatory framework and recommended mitigation measures. No significant unavoidable impacts to cultural resources would occur as a result of project implementation.

Section 5.10
Biological Resources

5.10 BIOLOGICAL RESOURCES

The purpose of this section is to identify existing biological resources within the project area, analyze potential impacts to those resources from project implementation, and recommend mitigation measures to avoid or lessen the level of significance of the potential impacts. This section is primarily based upon the *McFarland General Plan Amendment Programmatic Habitat Assessment* (Biological Assessment), prepared by Michael Baker International, dated September 2015; refer to Appendix F, *Biological Assessment*.

5.10.1 EXISTING SETTING

BIOLOGICAL ASSESSMENT METHODOLOGY

A programmatic habitat assessment for the proposed McFarland General Plan Amendment was conducted in September 2015, which involved a desktop assessment including a literature review and records search to determine which sensitive plant and wildlife species have the potential to occur within or adjacent to the project site that could pose a constraint to development within the project site. The project site encompasses a small area in the southeastern and southern portion of the City as well as areas within the City's sphere of influence to the south and east. Special attention was given to the suitability of the habitat within and adjacent to the project site to support multiple target species including tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), California jewelflower (*Caulanthus californicus*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), blunt-nosed leopard lizard (*Gambelia sila*), San Joaquin woolly-threads (*Monolopia congdonii*), and San Joaquin kit fox (*Vulpes macrotis mutica*), as well as several other sensitive species identified by the California Natural Diversity Database (CNDDB) and other electronic databases as potentially occurring within or adjacent to the project site. Water features within the project boundaries were assessed for potential state and federal jurisdiction based on aerial and topographic imagery.

Literature Review

The literature review and records search were conducted to document all sensitive biological resources potentially occurring within or adjacent to the project site. Previously recorded occurrences of sensitive plant and wildlife species and their proximity to the project site were determined through a query of the California Department of Fish and Wildlife's (CDFW) CNDDB Rarefind 5, CNDDB Quickview Tool, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, eBird database, compendia of sensitive species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

Literature detailing biological resources previously observed in the vicinity of the project site and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on sensitive and non-sensitive biological resources as well as additional resources were reviewed for habitat requirements including the following:

- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey;

- Google Earth Pro aerial imagery (dates accessed: September 1994 – March 2015);
- Kern County Valley Floor Habitat Conservation Plan, First Public Draft (GANDA 2006);
- CDFW 2012 Staff Report on Burrowing Owl Mitigation;
- USFWS Critical Habitat designations and 5-Year Reviews for Threatened and Endangered Species;
- USFWS Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998); and
- Habitat requirements for tricolored blackbird, burrowing owl, Swainson's hawk, California jewelflower, Tipton kangaroo rat, blunt-nosed leopard lizard, San Joaquin woolly-threads, and San Joaquin kit fox.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within or adjacent to the project site. Additional recorded occurrences of these species found within or near the project site were derived from database queries. The CNDDB Arcmap database was used, in conjunction with Arcmap software to locate the nearest occurrence and determine its proximity to the project site.

Soil Series Assessment

On-site and adjoining soils were researched using the USDA NRCS Soil Survey for Kern County, California, Northwestern Part. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the project site has undergone.

Plant Communities

Plant communities were mapped using aerial photography. The plant communities were classified in accordance with Holland (1986), Sawyer et al. (2009), and CDFW (2010), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community in acres.

Jurisdictional Areas

Aerial photography was reviewed to locate and inspect potential natural drainage features and water bodies that may be considered riparian or riverine habitat and/or fall under the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory authorities.

EXISTING CONDITIONS

The project site is generally located north of State Route 46 (SR-46), east of SR-43, south of SR-155, and west of SR-65 in Kern County, California. The project site is depicted on the McFarland quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic

map series. It consists of two distinct areas located on both sides of SR-99. These areas are located in Sections 13 and 24 of Township 26 south, Range 25 east, and Sections 18 and 19 of Township 26 south, Range 26 east. Specifically, the project site is bound on the west side of SR-99 by Taylor Avenue to the north, Garzoli Avenue to the west, and Whisler Road to the south, and on the east side of SR-99 by Sherwood Avenue to the north, Driver Road to the east, and Whisler Road to the south.

Local Climate

Kern County features a generally semi-arid climate, with hot, sunny, dry summers and mild-to-warm winters with little rain. Relative to the rest of southern California, Kern County falls somewhere around the median for average annual temperatures and rainfall. Climatological data obtained for the City indicates the annual precipitation averages 7.34 inches per year. Almost all of the precipitation occurs in the months between November and April, with hardly any occurring between the months of May and October. The wettest month is March, with a monthly average total precipitation of 1.6 inches, while the driest month is July, with a monthly average total precipitation of 0.01 inch. The average maximum and minimum temperatures for the City are 78.8 and 48.8 degrees Fahrenheit (°F) respectively with July being the hottest month (average high of 99°F) and December being the coldest (average low of 34°F).

Topography and Soils

The project site is relatively flat with no areas of significant topographic relief. On-site surface elevation ranges from approximately 360 to 402 feet above mean sea level and generally slopes to the southeast. Based on the USDA Soil Survey, the project site is underlain by the following soil units: Delano sandy loam (0 to 2 percent), McFarland loam, and Wasco sandy loam. On-site soils have been mechanically disturbed from agricultural land uses and development.

Surrounding Land Uses

California's Central Valley has been heavily transformed into one of the most productive agricultural regions in the world, producing much of the food that is consumed in the United States. As such, with the exception of the City, areas surrounding the project site are primarily composed of agricultural land uses. Areas immediately to the northwest of the project site are generally within the City limits and are mostly developed. The Friant-Kern Canal, which conveys irrigation water between the San Joaquin River and the Kern River, is located within 100 feet to the east of the project site at its closest point. The project site consists of two distinct areas located on either side of SR-99, and railroad tracks for the Union Pacific Railroad are located immediately to the east of SR-99, partially within the project site.

Vegetation

No naturally-occurring vegetation communities are present within the project site. Instead, one manmade community (Agriculture) and three land cover types (Agricultural Stock Pond, Disturbed, and Developed) are present within its boundaries; refer to Exhibit 6, Vegetation of the Biological Assessment. These areas are described in greater detail below.

AGRICULTURE

Agricultural lands (2,044.55 acres) comprise the majority (greater than 90 percent) of the land cover within the project site. These include areas that are planted with low-growing row crops, lands planted with fruit and/or nut trees, and lands that are used for raising livestock.

AGRICULTURE STOCK POND

Agricultural stock ponds (18.04 acres) are located throughout the project site. These are generally present in the corners of agricultural fields, but some ponds are also present on livestock lands or in association with residential development.

DISTURBED

Disturbed areas (42.80 acres) generally encompass unpaved areas where vegetation has usually been cleared, such as for dirt paths or future development, or where the land cover is not conducive to significant vegetation growth, such as boulder fields. Within the project site, these areas are generally restricted to dirt access roads or bare fields that are routinely disked and are not actively used for agriculture.

DEVELOPED

Developed areas generally encompass all buildings, as well as all paved, impervious surfaces. Developed areas within the project site include residences associated with agricultural areas, a residential neighborhood in the project site's northwestern corner, and the Union Pacific Railroad tracks.

Wildlife

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species expected or not expected to occur within the project site and immediate surrounding area. The discussion is to be used as a general reference.

FISH

Very few hydrogeomorphic features (e.g., creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish are present within the project site and adjacent areas. Those features that could provide suitable habitat for fish within the project site consist of artificial basins/stock ponds that are scattered throughout agricultural fields. The Friant-Kern Canal may contain some fish but this canal is used for irrigation purposes and would not introduce any fish into the project site, if present. Because there is no perennial water within the project site outside of the aforementioned artificial small ponds, no native fish are expected to be present, although some of the stock ponds may have been stocked with exotic fish such as mosquitofish (*Gambusia affinis*) that may be present if there is stagnant water.

AMPHIBIANS

Very few hydrogeomorphic features (e.g., creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibians are present within the project site and adjacent areas. Those

features that could provide suitable habitat for amphibians within the project site consist of artificial basins/stock ponds that are scattered throughout agricultural fields. Because amphibians are not completely restricted to water, it is possible that some Anuran species may occur within the stock ponds, most notably American bullfrog (*Lithobates catesbeianus*) in perennial ponds, if present. This species is unlikely to occur in any ponds that are annually drained, as its tadpoles can take up to two years to metamorphose. The CDFW species of special concern western spadefoot (*Spea hammondii*) has been recorded immediately outside of the project site in an ephemeral puddle, and may occur sparingly elsewhere (most likely in ephemeral puddles as opposed to stock ponds). Because of the extensive agricultural disturbance in the area and lack of any contiguous or nearby natural lands, there is a very low potential for Sierran treefrog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*) to occur within the project site.

REPTILES

The agricultural nature of the project site provides suitable habitat for lizard species that are adapted to human disturbance, and the extensive agricultural fields provide suitable prey bases for snakes. As such, the project site has the potential to support San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), western side-blotched lizard (*Uta stansburiana elegans*), Pacific gopher snake (*Pituophis catenifer catenifer*), and California kingsnake (*Lampropeltis californiae*). Due to the extensive agricultural disturbance and the habitat preferences of these species, sensitive reptilian species including blunt-nosed leopard lizard (*Gambelia sila*) and coast horned lizard (*Phrynosoma blainvillii*) are unlikely to occur within the project site.

AVIAN

The project site provides suitable habitat for avian species that are adapted to human disturbance and to agricultural lands. In many cases shorebirds or birds that are otherwise identified with aquatic habitats may be found foraging in irrigated farmlands. Some of the avian species most likely to occur within the project site include red-tailed hawk (*Buteo jamaicensis*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), American kestrel (*Falco sparverius*), black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), mountain bluebird (*Sialia currucoides*), European starling (*Sturnus vulgaris*), American pipit (*Anthus rubescens*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*). The project site may support burrowing owl in areas outside of arboreal crops and outside of vineyards and has the potential to support both tricolored blackbird and Swainson's hawk.

MAMMALS

The agricultural nature of the project site supports suitable habitat for a number of diurnal and nocturnal mammals, including rodents, predators, and bats. Rodents are likely to burrow into open spaces in agricultural fields or in disturbed areas, and bats are likely to forage for insects within the agricultural fields. Mammals that may occur within the project site include Virginia opossum (*Didelphis virginiana virginiana*), big brown bat (*Eptesicus fuscus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), California ground squirrel (*Otospermophilus beecheyi*), deer mouse (*Peromyscus maniculatus*), and desert cottontail (*Sylvilagus audubonii*).

Nesting Birds

The project site provides nesting opportunities primarily through extensive crops, which represent tenuous nesting habitat due to regular human disturbance and eventual harvests. This has been a significant reason for the precipitous decline of tricolored blackbirds, in that this species nests primarily in silage crops, which are typically harvested for livestock feed before the young blackbirds can fledge. However, some species may have adapted to nesting in this continually-disturbed habitat. Non-crop trees that would provide safer nesting habitat are located primarily around development (e.g. residences). Some farmers may also provide owl boxes for nesting owls to help reduce incidences of rodent damage to their crops.

Migratory Corridors and Linkages

Habitat linkages provide links between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species, yet inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

No functional migratory corridors or linkages are present within the project site, which consists almost entirely of active agricultural lands. The Friant-Kern Canal further restricts the abilities of wildlife to pass into or out of the project site to the south or the east, although there may be some movement along the canal's length. Poso Creek to the south may function as a wildlife movement corridor for the area, but at no point does it enter or come within close proximity to the project site, which is still over one mile away at its closest point and separated from the creek by dense orchards.

Jurisdictional Areas

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the Fish and Game Code, and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Under the 2015 CWA Rule, "farm and stock watering ponds" are not considered to be "waters of the United States". Based on the aerial review, there are no areas with the project site that would qualify as "waters of the United States" and fall under the regulatory authority of the Corps. However, agricultural stock ponds within the boundaries of the project site may qualify as "waters of the State" and fall under the jurisdiction of the Regional Board and the CDFW if they support emergent and/or riparian vegetation, or are being used for water quality purposes.

Sensitive Biological Resources

The CNDDB was queried for reported locations of listed and sensitive plant and wildlife species, as well as sensitive natural plant communities, in the McFarland, Pond, Wasco, and Famoso USGS 7.5-minute quadrangles. A search of published records of these species was conducted within these quadrangles using the CNDDB Rarefind 5 online software. The CNPS Inventory of Rare and Endangered Vascular Plants of California supplied information regarding the distribution and habitats of vascular plants in the vicinity of the project site. Aerial photography and Google's "Street View" imagery was used to assess the ability of the plant communities on-site to provide suitable habitat for relevant sensitive plant and wildlife species.

The literature search identified seven sensitive plant species, eight sensitive wildlife species, and one sensitive habitat as having the potential to occur within the McFarland, Pond, Wasco, and Famoso quadrangles. Sensitive plant and wildlife species were evaluated for their potential to occur within or adjacent to the project site based on habitat requirements, known distribution records, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity are presented in Appendix C of the Biological Assessment and discussed below.

SENSITIVE PLANTS

According to the CNDDB and CNPS, seven sensitive plant species have been recorded in the McFarland, Pond, Wasco, and Famoso quadrangles. The project site has been entirely converted from natural communities into agricultural lands and associated development (e.g., stock ponds, access roads). Based on habitat requirements for specific species, known distribution records, and the availability and quality of habitats needed by each sensitive plant species, it was determined that there is no suitable habitat within the project site to support any sensitive plant species. Species accounts are provided below for the aforementioned target plant species as justification for their absence.

California Jewelflower

California jewelflower is an annual herb that flowers between February and May. It is both state and federally listed as endangered. It is also designated by the CNPS with the Rare Plant Rank 1B.1, indicating that it is rare, threatened, or endangered in California and elsewhere, with over 80 percent of its known occurrences threatened. It is endemic to California and is only known to occur in Fresno, Kern, Santa Barbara, and San Luis Obispo Counties, and is considered extirpated in Kings and Tulare Counties. It can be found in sandy soils in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland between 200 and 3,281 feet in elevation. There is no suitable habitat for California jewelflower, and it is presumed absent from the project site.

San Joaquin Woolley-threads

San Joaquin woolly-threads is an annual herb that flowers between February and May. It is federally listed as endangered, but has no state designation. It is also designated by the CNPS with the Rare Plant Rank 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere, with 20 to 80 percent of its known occurrences threatened. It is endemic to California and is only known to occur in Fresno, Kings, Kern, Santa Barbara, San Benito, and San Luis Obispo Counties, and is considered extirpated in Tulare County. It can be found in

chenopod scrub and sandy valley and foothill grassland between 197 and 2,625 feet in elevation. There is no suitable habitat for San Joaquin woolly-threads, and it is presumed absent from the project site.

SENSITIVE WILDLIFE

According to the CNDDB, eight sensitive wildlife species have been reported in the McFarland, Pond, Wasco, and Famoso quadrangles. Based on habitat requirements for specific species, known distribution records, and the availability and quality of habitats needed by each sensitive wildlife species, it was determined that there is a moderate or high potential for four sensitive wildlife species to occur, including tricolored blackbird, burrowing owl, Swainson's hawk, and San Joaquin kit fox. The remaining four sensitive wildlife species have a low potential to occur within the project site or are presumed absent. Brief species accounts are provided below for those wildlife species with a moderate or higher potential to occur within the project site or which are target species.

Tricolored Blackbird

Tricolored blackbird is currently designated by the CDFW as a California species of special concern. In October 2014, the Center for Biological Diversity (CBD) petitioned the CDFW to protect the tricolored blackbird under the California Endangered Species Act (CESA). In December 2014, the California Fish and Game Commission voted to protect the bird with a six-month emergency listing, subject at the end of its duration to a second vote to determine whether the bird should be permanently listed under the CESA or be delisted. In June 2015 the Fish and Game Commission voted to allow the tricolored blackbird's emergency listing to expire, and in August 2015 the CBD again petitioned the CDFW to list the tricolored blackbird under CESA. In addition, the CBD petitioned USFWS in February 2015 to list the species under the Federal Endangered Species Act (FESA). The status of tricolored blackbird at the time of any development of the project site should be followed closely.

Tricolored blackbirds occur almost entirely (99 percent of their population) in California, mostly within the Central Valley. While this species historically nested widely in freshwater marshes, over time it has increasingly adapted its habitat uses and now is strongly associated with agricultural areas, particularly dairy farms. During the 2011 statewide survey, it was found that 78.1 percent of tricolored blackbird nests were associated with dairies, which provide nesting substrate, water, and food, but are also precarious nesting areas due to the fact that the harvests are timed when many young birds have not yet fledged. Optimal foraging habitat includes irrigated pastures, lightly-grazed rangelands, dry seasonal pools, organic rice paddies, and crops such as alfalfa (*Medicago sativa*) and sunflower (*Helianthus spp.*), whereas row crops, vineyards, and heavily grazed rangelands provide little or no forage. Birds will search up to 5.6 miles from their colonies for food. In the San Joaquin Valley, nesting is typically begun in March and is widespread by April; in the Sacramento Valley it may be delayed until May or June. All breeding activity range wide is usually completed by late July or early August, although fall breeding has been infrequently recorded. Young birds typically fledge by mid-April. Tricolored blackbird has a moderate potential to occur within the project site.

Burrowing Owl

The burrowing owl is designated by the CDFW as a California species of special concern. It is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments.

Burrowing owls use a wide variety of arid and semi-arid environments with well-drained, level to gently-sloping areas characterized by sparse vegetation and bare ground. They are dependent upon the presence of burrowing mammals (such as ground squirrels) for roosting and nesting habitat. The presence or absence of colonial mammal burrows is often a major factor that limits the presence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. Small mammals may also burrow beneath rocks and debris or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. This species requires open vegetation allowing line-of-sight observation of the surrounding habitat to forage as well as watch for predators. The burrowing owl nesting season generally extends from mid-March to the end of August. Burrowing owl is a somewhat common and widespread species in California's Central Valley, often found in or on the edges of agricultural fields. Burrowing owl has a moderate potential to occur within the project site, which is nearly entirely agricultural fields.

Swainson's Hawk

Swainson's hawk is listed as threatened under the CESA. The Central Valley is the last remaining significant stronghold for this species in California, with some breeding in valleys of the Sierra Nevada as well. Swainson's hawks are generally in the Central Valley for six to seven months out of the year, arriving in late February and early March and departing in September. During migration, this species can often be found utilizing grasslands or agricultural fields for foraging, as well as manmade structures and trees for perching or overnight roosting. However, Swainson's hawks are typically found nesting in scattered trees within grassland, shrub land, or agricultural areas; in the Central Valley nests are often located on the edge of riparian strips, in isolated oak woodlands, in lone trees, roadside trees, farmyard trees, and even in residential areas. Much of their foraging habitat in California consists of active agricultural fields, where prey (rodents, insects) are more productive and plentiful. Most eggs range wide in the Central Valley have been laid by mid-April, with fledging typically occurring between July 1 and mid-August. Swainson's hawk is likely to occur on-site.

Tipton Kangaroo Rat

The Tipton kangaroo rat, a subspecies of the San Joaquin kangaroo rat, is both state and federally listed as endangered. Due to a lack of current survey data, the current distribution of this species is unknown, but is believed to be limited to ten major sites and several additional smaller areas. Populations within sites are typically separated by large distances and in many cases are also separated by physical barriers. They are most often associated with valley saltbush scrub and valley sink scrub vegetation communities with sparse-to-moderate shrub cover and can be found in microhabitats consisting of alluvial fans and floodplain soils. They typically live in burrows less than ten inches deep, which may or may not be branched or connected to other tunnels. These burrows are usually found in elevated mounds, road berms, the sides of canals, railroad beds, and at the bases of shrubs and fences. Reproduction in Tipton kangaroo rats begins in winter and peaks in late March and early April, with typically only one litter per female but occasionally more. There is no suitable habitat for Tipton kangaroo rat, and it is presumed absent from the project site.

Blunt-nosed Leopard Lizard

The blunt-nosed leopard lizard is both federally and state listed as endangered and is designated by the CDFW as fully protected. Due to land conversion of natural habitats for

agriculture and grazing, oil extraction, and urban development, the blunt-nosed leopard lizard is now excluded from 94 percent of its former habitat. Its current known distribution is primarily restricted to the foothills of the western San Joaquin Valley from Merced County, south to Kern County, the Carrizo Plain and California Valley areas of San Luis Obispo County, and a small portion of the foothills of the eastern San Joaquin Valley within Kern County. This species is found in sparsely vegetated plains, alkali flats, washes, arroyos, canyon floors, and low foothills in areas of gentle topography and generally does not utilize areas of greater than 30 to 40 percent slope. It prefers open habitat with scattered shrubs, with little grass cover and abundant rodent burrows that can be used as escape cover, thermal cover, and resting areas. Shrubs will also be used as hiding and thermal cover when necessary. During their active period, blunt-nosed leopard lizards are most active on the surface when temperatures are between 77°F and 95°F. The adult peak activity period ends around July, when adults go underground to enter a period of torpor. Around the same time, hatchlings emerge around the end of July and are subsequently active until early November. Thus, there is a temporal separation between the adult and the juvenile peak activity periods. There is no suitable habitat for blunt-nosed leopard lizard, and it is presumed absent from the project site.

San Joaquin Kit Fox

The San Joaquin kit fox is federally listed as endangered and state listed as threatened. CNDDB records between 1998 and 2008, as illustrated in the 2010 USFWS 5-Year Review show the San Joaquin kit fox is currently distributed from Kern County north into Contra Costa County, with the majority of the records occurring in the southern San Joaquin Valley in western Kern and eastern San Luis Obispo Counties. This species is generally associated with semi-desert areas in the southern San Joaquin Valley and its surrounding foothills, as well as in arid and alkaline foothills along the valley's western edge. In the southern part of their range, San Joaquin kit foxes are associated with valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, and annual grassland. Row crops in particular, which undergo heavy weekly inundation, are less conducive to kit fox presence, as the flooding reduces prey availability and the stability of underground burrows. There is conflicting data about the efficacy of farmlands in general for San Joaquin kit foxes, with some studies suggesting that they are important for movement and foraging and others suggesting that farmlands present little to no usable habitat, even when it is the predominant land cover type in an area. According to studies of occupied habitat, San Joaquin kit fox is most likely to occur on lands that are sloped at less than five percent, with decreased suitability in habitat that is sloped between five and 15 percent. Slopes greater than 15 percent are considered unsuitable, as increased ruggedness tends to be associated with higher use of kit fox predators, particularly coyotes. Females begin preparing for the upcoming breeding season in September and October by enlarging their natal dens; reproduction takes place between December and March, with litters born between February and late March. Reproductive success is correlated with prey availability. Because there is conflicting data about the long-term potential for San Joaquin kit foxes to occupy agricultural areas, this species has a low potential to occur within the project site, which primarily supports agricultural land (greater than 90 percent).

SENSITIVE PLANT COMMUNITIES

The CNDDB lists one sensitive habitat as being identified within the McFarland, Pond, Wasco, and Famoso quadrangles: Valley Saltbush Scrub. This vegetation community is not present within the project site, which has been converted to agricultural land and which no longer supports natural vegetation communities.

Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. "Critical Habitat" refers to habitat or a specific geographic area that contains the elements and features that are essential for the survival and recovery of the species. In the event that a project may result in take or in adverse effects to a species' designated Critical Habitat, the project proponent may be required to engage in suitable mitigation. However, consultation for impacts to Critical Habitat is only required when a project has a federal nexus (i.e. occurs on federal land, is issued federal permits [e.g. Corps Section 404 CWA permit], or receives any other federal oversight or funding). If a project does not have a federal nexus, Critical Habitat consultations are not required. There is no designated Critical Habitat within or adjacent to the project site. The nearest designated Critical Habitat, vernal pool fairy shrimp (*Branchinecta lynchi*) Critical Habitat Unit 27D, is approximately 14 miles to the north (71 Federal Register [FR] 7118 7316). In addition, within a 20-mile radius, Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) Critical Habitat Unit 1 (Kern National Wildlife Refuge Unit) and Unit 2 (Goose Lake Unit) are located approximately 20 miles northwest and 17 miles southwest of the project site (78 FR 39835 39867), respectively, and the California condor (*Gymnogyps californianus*) Kern County rangelands unit is located approximately 17 miles to the east (42 FR 47840 47845).

5.10.2 REGULATORY SETTING

Threatened and endangered species are listed by the USFWS and California Department of Fish and Wildlife (CDFW). In California, three agencies generally regulate activities within inland streams, wetlands, and riparian areas: Corps; the CDFW; and the RWQCB. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. The CDFW regulates activities under CDFW Code Sections 1600-1607. The RWQCB regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

FEDERAL

Federal Endangered Species Act

The FESA of 1973 (50 CFR 17) is intended to protect plants and animals that have been identified as being at risk of extinction and classified as either threatened or endangered. FESA also regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act. A responsible agency or individual landowners are required to submit to a formal consultation with the USWFS to assess potential impacts to listed species as the result of a development project, pursuant to FESA Sections 7 and 10. The USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified.

Federal Clean Water Act

SECTION 404

The Corps maintains regulatory authority over the discharge of dredged or fill material into the waters of the United States, pursuant to Section 404 of the CWA. The Corps and U.S.

Environmental Protection Agency (EPA) define "fill material" as any "material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of the waters of the United States." Fill material may include sand, rock, clay, construction debris, wood chips, or other similar "materials used to create any structure or infrastructure in the waters of the United States". The term "waters of the United States" includes the following:

- All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;
- Wetlands;
- All waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of water mentioned above;
- All tributaries of waters mentioned above;
- Territorial seas; and,
- All wetlands adjacent to the waters mentioned above.

In the absence of wetlands, the Corps' jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM), which is defined as "…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e])."

Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are jointly defined by the Corps and EPA as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3[b])."

On January 9, 2001, the U.S. Supreme Court issued the decision, Solid Waste Agency of Northern Cook County v. U.S. Army Corp of Engineers et al. As a result of this case, the scope of the Corps' Section 404 CWA regulatory permitting program was limited, restricting Corps' jurisdictional authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries (i.e., wetland conditions). The Supreme Court held that Congress did not intend for isolated, non-navigable water conditions to be covered within Section 404 of the CWA, as they are not considered to be true "waters of the U.S."

SECTION 401

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the Federal CWA and the California

Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands (isolated and non-isolated conditions).

Through 401 Certification, Section 401 of the CWA allows the RWQCB to regulate any proposed federally permitted activity that may affect water quality. Such activities include the discharge of dredged or fill material, as permitted by the Corps, pursuant to Section 404 of the CWA. The RWQCB is required to provide "certification that there is reasonable assurance that an activity which may result in the discharge to waters of the United States will not violate water quality standards," pursuant to Section 401. The Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards, which are given as objectives in each of the RWQCB's Basin Plans.

In addition, pursuant to the Porter-Cologne Water Quality Control Act, the State is given authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 does not apply. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

STATE

California Endangered Species Act

The CESA of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and wildlife species designated as endangered, threatened, or rare within the State. The State of California also lists Species of Special Concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. The State gives the CDFW the responsibility to assess development projects for their potential to impact listed species and their habitats. State listed special-status species are also addressed through the issuance of a 2081 permit (Memorandum of Understanding).

California Fish and Game Code

Within the State of California, fish, wildlife, and native plant resources are protected and managed by the CDFW. The Fish and Game Commission and/or the CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the Code address the protected species: Section 3511 (birds); Section 4700 (mammals); Section 5050 (reptiles and amphibians); and Section 5515 (fish).

California Department of Fish and Wildlife Lake and Streambed Alteration Agreements

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to *California Fish and Game Code* Sections 1600-1607; however, on January 1, 2004, legislation went into effect that repealed Fish and Game Code Sections 1600-1607 and instead, added *Fish and Game Code* Sections 1600-1616. This action eliminated the separation between private/public notifications (previously 1601/1603). Section 1602 of the *Fish and Game Code*

requires any person, state, or local governmental agency, or public utility to notify the CDFW before commencing any activity that would result in one or more of the following:

- Substantially obstruct or divert the natural flow of a river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or,
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes within the State of California. While the jurisdictional limits are similar to the limits defined by Corps regulations, CDFW jurisdiction includes riparian habitat supported by a river, stream, or lake with or without the presence or absence of saturated soil conditions or hydric soils. CDFW jurisdiction generally includes to the top of bank of the stream, or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Any project that occurs within or in the vicinity of a river, steam, lake, or their tributaries typically requires notification of the CDFW, including rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life, and watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.

Migratory Bird Treaty Act of 1918

The Federal Migratory Bird Treaty Act (MBTA) was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA makes it illegal to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers, nests, eggs, or other avian products. The USFWS is responsible for enforcing the MBTA.

California Environmental Quality Act

In addition to specific Federal and State statutes for the protection of threatened and endangered species, *California Environmental Quality Act* (CEQA) Guidelines Section 15380(b) provides that a species not listed on the Federal or State list of protected species may be considered rare or endangered if it can be shown that the species meets certain specified criteria. Modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and wildlife, these criteria are given in CEQA Guidelines Section 15380(b). The effect of Section 15380(b) is to require public agencies to undertake reviews to determine if projects would result in significant effects on species not listed by either the USFWS or CDFW (i.e., candidate species). Through this process, agencies are provided with the authority to protect additional species from the potential impacts of a project until the appropriate government agencies have an opportunity to designate the species as protected, if deemed appropriate.

Natural Community Conservation Plan

The Natural Community Conservation Act (the Act), codified at Fish and Game Code Sections 2800-2840, authorizes the preparation of Natural Community Conservation Plans (NCCPs) to protect natural communities and species, while allowing a reasonable amount of economic development.

REGIONAL

Kern County Valley Floor Habitat Conservation Plan

Kern County's Valley Floor Habitat Conservation Plan (HCP) was first submitted as a public draft in 2006 and has not yet been finalized. It would encompass a total area of 3,110 square miles, including most of the San Joaquin Valley floor within Kern County. The draft HCP divides the Plan Area into three preservation designations: Red Zones (high importance, 90 percent preservation goal), Green Zones (moderate importance, 75 percent preservation goal), and White Zones (limited importance). The HCP would cover fourteen plant species and eleven animal species for take authorization and conservation requirements. The project site is located entirely within a White Zone, which generally refers to areas lacking natural communities.

CITY OF MCFARLAND

McFarland Open Space, Conservation, and Recreation Element

The Open Space, Conservation, and Recreation Element provides for the preservation of open space, conservation of resources, and provision of recreation facilities and amenities in McFarland. The Element identifies concerns regarding wildlife and its natural habitat, focusing on rare and endangered species. The protection of natural botanic communities is also addressed. The following objectives and policies support consideration of the environment as part of the development process.

5.10.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; refer to Impact Statement BIO-1.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means; refer to Impact Statement BIO-2.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; refer to Impact Statement BIO-3.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; refer to Impact Statement BIO-4.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; refer to Impact Statement BIO-5).

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact".

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of project implementation. Project-related impacts can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification, or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by project development; i.e., indirect impacts. Indirect impacts can also involve the effects of increases in ambient levels of noise or light, unnatural predators (i.e., domestic cats and other non-native animals), competition with exotic plants and animals, and increased human disturbance such as hiking and dumping of green waste onsite. Indirect impacts may be associated with the subsequent day-to-day activities associated with project build-out, such as increased traffic use, permanent concrete barrier walls or chain-link fences, exotic ornamental plantings that provide a local source of seed, etc., which may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Potential significant adverse effects, either directly or through habitat modifications, on any special-status plant, animal, or habitat that could occur as a result of project development have been evaluated under CEQA and CDFW guidelines.

5.10.4 IMPACTS AND MITIGATION MEASURES

SPECIAL STATUS PLANT AND WILDLIFE SPECIES

BIO-1 PROJECT IMPLEMENTATION COULD HAVE AN ADVERSE EFFECT, EITHER DIRECTLY OR THROUGH HABITAT MODIFICATIONS, ON SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL STATUS.

Impact Analysis: According to the Biological Assessment, development within the project site has completely eliminated the naturally occurring habitats, leaving only manmade habitats, consisting almost entirely of agriculture. Besides agricultural land, the project site is composed of agricultural stock ponds as well as disturbed and developed lands.

A literature and record search was conducted to determine which sensitive species have been recorded in the site vicinity. Special attention was given to the suitability of the habitat within and adjacent to the City limits to support certain target species consisting of listed species known to occur in the area or species of regional significance. These target species include tricolored blackbird, burrowing owl, Swainson's hawk, California jewelflower, Tipton kangaroo rat, blunt-nosed leopard lizard, San Joaquin woolly-threads, and San Joaquin kit fox. Conversion of this portion of the City to agricultural fields has eliminated all natural communities within the project site. Therefore, all sensitive plant species are presumed absent. Based on habitat requirements for specific species, known distribution records, and the availability and quality of habitats needed by each sensitive wildlife species, it was determined that there is a moderate to high potential for tricolored blackbird, burrowing owl, and Swainson's hawk to occur on-site. San Joaquin kit fox has a low potential to occur within the project site. All other sensitive wildlife species have a low potential to occur within the project site or are presumed absent. As the project site is associated with agricultural lands and farm lands, suitable habitat for tricolored blackbird, burrowing owl, and Swainson's hawk is located throughout the entire project site. There is a disagreement in literature about whether agricultural lands can qualify at all as functional habitat for San Joaquin kit fox, with some studies suggesting they are valuable foraging and movement habitat and others suggesting that they are rarely used even when they are the predominant habitat type in an area. As such, it is unknown whether on-site agricultural land is suitable for San Joaquin kit fox and it is assumed that this species has a low potential to occur on-site.

Although site-specific development is not currently proposed, future development could substantially reduce the habitat available for special status wildlife species. Rare plant surveys are not recommended due to the complete conversion of the project site from natural habitats to agriculture or other forms of development. Given the conceptual nature of the development anticipated by the proposed project, future development projects would undergo environmental review pursuant to CEQA Guidelines on a project-by-project basis, in order to determine potential impacts to special status wildlife species. Compliance with Mitigation Measures BIO-1 and BIO-2, which require focused surveys to be conducted for tricolored blackbird, burrowing owl, Swainson's hawk, and San Joaquin kit fox and ascertaining the current status of the HCP to ensure development remains consistent with the HCP's goals prior to any development within the project site would reduce potential impacts to special status wildlife species to less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Policy 1-a: Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl.

Objective 3: Provide for environmentally sound community development in McFarland.

Policy 3-1: Consistently analyze Environmental Review documents and submit appropriate comments.

Policy 3-b: Regularly review Environmental Review procedures.

Project Mitigation Measures:

BIO-1 Prior to any development within the project site, a focused survey of the proposed development site within and adjacent to agricultural land shall be conducted by a qualified Biologist, prior to any ground disturbance, for tricolored blackbird, burrowing owl, and Swainson's hawk. If any of these species, or any other birds, are found actively nesting on-site, nest avoidance measures shall be required. These typically consist of a 250-foot buffer for non-listed passerines and a 500-foot buffer for listed species and raptors. Construction can only continue after all young fledge or the nest otherwise becomes inactive under natural conditions.

BIO-2 Prior to any development of the project site, the current status of the Kern County's Valley Floor Habitat Conservation Plan (HCP) shall be ascertained so that the development can remain consistent with the HCP's goals, if applicable. San Joaquin kit fox surveys may be required under the final HCP. If the HCP is finalized prior to the development of the project site, it may contain more specific survey requirements for covered species. If the final HCP contains any species-specific take coverage conditions (e.g. surveys, mitigation), they shall be conformed to in order for the project to remain in compliance with take permits.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

JURISDICTIONAL WATERS AND WETLANDS

BIO-2 PROJECT IMPLEMENTATION COULD HAVE A SUBSTANTIAL ADVERSE EFFECT ON FEDERALLY PROTECTED WETLANDS.

Impact Analysis: There are no areas within the project site that would qualify as "waters of the United States" and fall under the regulatory authority of the Corps. Future development projects would undergo environmental review pursuant to CEQA Guidelines on a project-by-project basis, in order to determine potential impacts to jurisdictional waters and wetlands. Implementation of Mitigation Measure BIO-3 would require a jurisdictional assessment to be conducted as part of a field investigation to ensure that there are no jurisdictional "waters of the United States" that would be impacted as a result of future site development. As agricultural stock ponds within the boundaries of the project site may qualify as "waters of the State" and fall under the jurisdiction of the Regional Board and the CDFW if they support emergent and/or riparian vegetation, or are being used for water quality purposes, the jurisdictional assessment would also need to cover the agriculture stock ponds to determine if they would qualify as "waters of the State" and fall under the jurisdiction of the Regional Board and CDFW. With implementation of Mitigation Measure BIO-3, potential impacts to jurisdictional waters and wetlands would be reduced to less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures:

BIO-3 Prior to any development of the project site, a jurisdictional assessment shall be conducted as part of a field investigation to ensure no jurisdictional "waters of the United States", as regulated by the U.S. Army Corps of Engineers (Corps) would be impacted as a result of site development. The jurisdictional assessment would also require an assessment of agricultural stock ponds to determine if they would qualify as "waters of the State" and fall under the jurisdiction of the Regional Water Quality Control Board and California Department of Fish and Wildlife (CDFW). If any jurisdictional features are found on-site, activities impacting these features may require a Clean Water Act (CWA) Section 404 permit from the Corps, CWA Section 401 Water Quality Certification from the Regional Board, and/or a Section 1602 Streambed Alteration Agreement from CDFW.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

MOVEMENT OF MIGRATORY SPECIES

BIO-3 IMPLEMENTATION OF THE PROPOSED PROJECT COULD INTERFERE WITH THE MOVEMENT OF A NATIVE RESIDENT OR MIGRATORY SPECIES.

Impact Analysis: The Friant-Kern Canal, which is located approximately 100 feet to the east of the project site and the Poso Creek, which is located approximately one mile away to the south of the project site, could function as wildlife movement corridors. Future development could interfere with the movement of wildlife species through the canal and creek corridors. The project area could support migratory bird species, including both shorebirds or birds that are otherwise identified with aquatic habitats such as red-tailed hawk, rock pigeon, mourning dove, American kestrel, black phoebe, American crow, common raven, horned lark, mountain bluebird, European starling, American pipit, red-winged blackbird, Brewer's blackbird, house finch, and house sparrow. Future development projects would undergo environmental review pursuant to CEQA Guidelines on a project-by-project basis, in order to determine potential impacts to wildlife movement corridors. With implementation of Mitigation Measure BIO-1, which requires a site-specific focused survey to be conducted for target species prior to development, this impact would be reduced to less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure BIO-1.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

POLICIES PROTECTING BIOLOGICAL RESOURCES

BIO-4 PROJECT IMPLEMENTATION WOULD NOT CONFLICT WITH POLICIES PROTECTING BIOLOGICAL RESOURCES.

Impact Analysis: The project site is comprised primarily of agricultural lands, with low-growing row crops, lands planted with fruit and/or nut trees, and lands that are used for raising livestock. As discussed previously, the agricultural nature of the project site supports suitable habitat for a number of target species including tricolored blackbird, burrowing owl, and Swainson's hawk. The General Plan Open Space, Conservation, and Recreation Element includes policies for environmentally sound development including compliance with environmental procedures. Future development projects would be reviewed for consistency with the General Plan policies, including policies to protect and minimize impacts to threatened and endangered species in accordance with State and federal laws and provisions of the CEQA Guidelines. Mitigation Measures BIO-1, BIO-2, and BIO-3, would require future development within the project area to conduct a focused sensitive species survey, remain consistent with HCP's goals (if finalized), and prepare a jurisdictional assessment to cover potential jurisdictional waters of the State, if applicable. Therefore, the proposed project would not conflict with policies protecting biological resources and less than significant impacts would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures BIO-1 through BIO-3.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

KERN COUNTY VALLEY FLOOR HABITAT CONSERVATION PLAN

BIO-5 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT CONFLICT WITH THE KERN COUNTY VALLEY FLOOR HABITAT CONSERVATION PLAN.

Impact Analysis: The project site is located entirely within the Draft HCP. The HCP was first submitted for review as a draft document in 2006 and is in the process of being revised. The biological goals of the Draft HCP are to preserve existing natural lands within the Plan Area as a series of preserves that can help to support viable populations of the Draft HCP's twenty-five covered species. The Draft HCP will also help to support the recovery goals of the USFWS Recovery Plan for Upland Species of the San Joaquin Valley, California. Each covered species has its own conservation program within the Draft HCP. Conversion of agricultural lands to urban uses also requires 1:1 compensation of acreage within natural lands.

Prior to any future development within the project site, implementation of Mitigation Measure BIO-2 would require the current status of the Draft HCP to be ascertained. If the Draft HCP has been finalized and adopted at the time of development, an intensive review of its preservation policies and requirements would be necessary to ensure that future development remains consistent with the HCP. Future development projects would be required to comply with the policies and requirements of the HCP, and impacts in this regard would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure BIO-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.10.5 CUMULATIVE IMPACTS

BIO-6 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO BIOLOGICAL RESOURCES.

Impact Analysis: The Biological Assessment concluded that future development within the project area could significantly impact special status wildlife habitat, jurisdictional waters and wetlands, and wildlife movement corridors, and could conflict with policies protecting biological resources. As concluded above, with implementation of Mitigation Measures BIO-1 through BIO-3, impacts on biological resources are considered less than significant.

When viewed in conjunction with cumulative development, the loss of special status wildlife habitat, jurisdictional waters and wetlands, and wildlife movement corridors could be considered cumulatively significant. The degree of significance would depend upon the location of the project and the potential to significantly impact biological resources. The City would continue to review future development plans and require environmental and design review on a project-by-project basis pursuant to CEQA, in order to evaluate potential impacts to biological resources. Prior to any future site development, focused sensitive species surveys would be conducted for any project in areas within and adjacent to agricultural land. In addition, if the Draft HCP is finalized and adopted prior to development of the project site, it may contain more specific survey requirements for covered species. Therefore, cumulative impacts to biological resources, which would be mitigated on a project-by-project basis with implementation of Mitigation Measures BIO-1 through BIO-3 would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures BIO-1 through BIO-3.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.10.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Biological impacts associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies and recommended mitigation measures. No significant unavoidable impacts to biological resources would occur as a result of project implementation.

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Section 5.11
Agriculture and Forestry Resources

5.11 AGRICULTURAL AND FORESTRY RESOURCES

This section describes the affected environment and regulatory settings for agriculture and forest resources for the proposed project. It also identifies the impacts that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable.

5.11.1 EXISTING SETTING

REGIONAL SETTING

The City of McFarland is located in the southern portion of the San Joaquin Valley, in the northeastern portion of Kern County. Kern County covers 8,202 square miles, including 1,311 square miles (839,079 acres) of harvested agricultural land and 2,325 square miles (1,488,000 acres) of range land.[1] Therefore, approximately 16 percent of the total County land is harvested land and approximately 28 percent of County land is rangeland. The 2014 gross value of all agricultural commodities produced in Kern County was $7.5 billion, which is an increase of 12 percent of the 2013 crop value. The top five commodities during 2014 were grapes, almonds, milk, citrus, and cattle and calves, which make up more than $5 billion (66 percent) of the total value.[2]

Kern County has experienced rapid growth and non-agricultural uses are progressively replacing agricultural lands. The California Department of Conservation (DOC) found that 2,391 acres of land were converted to urban uses from 2010 to 2010; refer to Table 5.11-1, *Agricultural and Other Land Use Changes*.

Table 5.11-1
Agricultural and Other Land Use Changes

Land Use Category	Acres 2010	Acres 2012	2010-2012 Change (acres)			
			Acres lost	Acres Gained	Total Acreage Changed	Net Acreage Changed
Prime Farmland	608,790	597,771	13,168	2,149	15,317	-11,019
Farmland of Statewide Importance	213,463	212,867	3,135	2,539	5,674	-596
Unique Farmland	91,830	89,694	4,878	2,742	7,620	-2,136
Farmland of Local Importance	0	0	0	0	0	0
Grazing Land	1,827,390	1,843,605	5,205	21,420	26,625	16,215
Subtotal Agricultural Land	2,743,483	2,745,949	26,386	28,850	55,236	2,464
Urban and Built-Up Land	141,897	143,726	562	2,391	2,953	1,829
Other Land	2,330,998	2,326,719	8,712	4,433	13,145	-4,279
Water Area	9,890	9,876	14	0	14	-14
Total	5,224,258	5,224,258	35,674	35,674	71,348	0

Source: California Department of Conservation, Kern County 2010-2012 Land Use Conversion, http://www.conservation.ca.gov/dlrp/fmmp/Pages/Kern.aspx, accessed August 27, 2015.

[1] County of Kern, *Draft Environmental Impact Report, Willow Springs Solar Array Project*, February 2015.
[2] County of Kern Department of Agriculture and Measurement Standards, *Annual Crop Reports*, 2014.

LOCAL SETTING

The City of McFarland is a small city surrounded by farmland. The City is located approximately 20 miles north of Bakersfield, and seven miles south of Delano. State Route 99 (SR-99) splits the City into two sections, with the majority of community facilities and businesses located to the west of SR-99. The City's General Plan planning area consists of a total of 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's Sphere of Influence (SOI). Agricultural land comprises approximately five percent (83 acres) of the land uses within the City's incorporated area, and 78 percent (5,622 acres) of the land within the entire planning area. The project area contains three different soil types, including Delano Sandy loam (0 to 2 percent slopes), McFarland loam, and Wasco Sandy loam. The majority of the on-site soils are from the McFarland loam, which is considered suitable for agriculture with irrigation, mainly alfalfa, cotton, and grapes. Among the other crops grown are milo, walnuts, and roses.

FARMLAND CLASSIFICATIONS

Land Capability Classification

The U.S. Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS) utilize the Land Capability Classification (LCC) system to determine a soil's agricultural productivity. The LCC groups soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. The LCC indicates the suitability of soils for most kinds of field crops. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes. Each soil map unit is assigned a capability class of I through VIII, and classes II through VII are assigned a sub-class describing limitations or hazards for agricultural purposes. A general description of soil classification, as defined by the NRCS, is provided below in Table 5.11-2, *Land Capability Classification*.

Table 5.11-2
Land Capability Classification

Class	Definition
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove soils that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: USDA, Natural Resources Conservation Service.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The goal of the FFMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. FMMP produces *Important Farmland Maps*, which are a hybrid of resource quality (soils) and land use information. The Important Farmland Maps identify five agriculture-related categories plus two non-agriculture listings: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban Land, and Other Land. The Important Farmlands Map of Kern County (2012) classifies the project area mostly as Prime Farmland; the remainder of the project area is designated as Confined Animal Agriculture, Grazing Land, Vacant or Disturbed Land, and Urban and Built-Up Land. As shown in Exhibit 5.11-1, *California Important Farmland Areas*, the project area contains approximately 1,989.78 acres of California State-designated Prime Farmland.

Williamson Act Contract

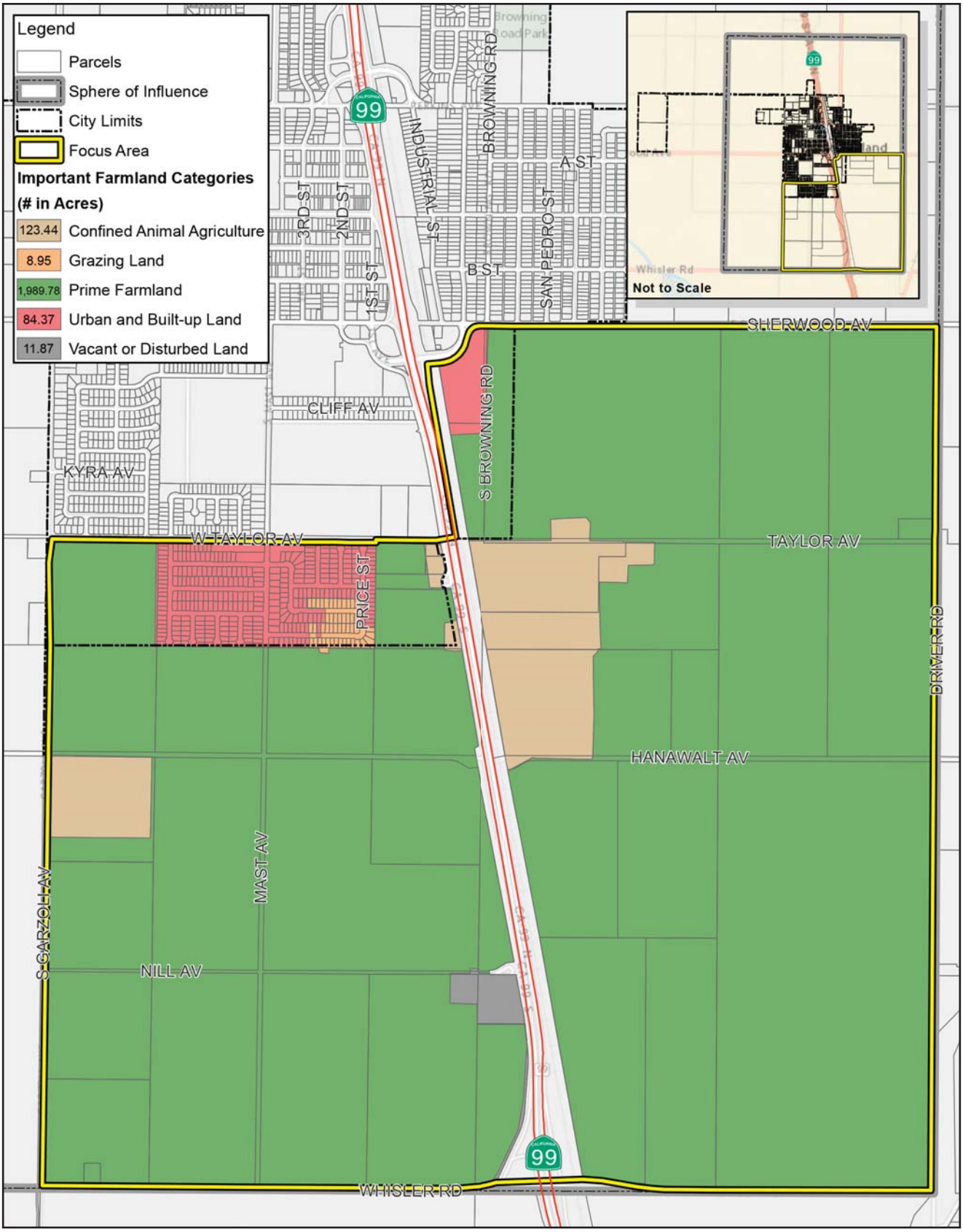
The California Land Conservation Act of 1965 (commonly referred to as the Williamson Act) enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The Open Space Subvention Act of 1971 provided local governments an annual subvention of forgone property tax revenues from the state through the year 2009; these payment have been suspended in more recent years due to revenue shortfalls. Williamson Act Contract land uses are designated as Prime Agricultural Land, Non–Prime Agricultural Land, Mixed Enrollment Agricultural Land, Farmland Security Zone, and Non-Renewal. As seen in Exhibit 5.11-2, *California Williamson Act Contract Areas*, the project area contains 1,271.43 acres of Prime Agricultural Land and 511.71 acres of Non-Renewal land, all of which is located within the SOI.

5.11.2 REGULATORY SETTING

STATE

Williamson Act

The California Land Conservation Act, better known as the Williamson Act, was passed in 1965 as an attempt to protect open space and agricultural resources from urbanization. The Act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. The vehicle for these agreements is a rolling term 10-year contract (i.e., unless either party files a "notice of nonrenewal", the contract is automatically renewed for an additional year.). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. Prime Agricultural Land (under the Act) is defined as meeting one or more of the following criteria set forth under California Government Code Section 51201 [c]:



Source: City of McFarland, Kern County, Department of Conservation, 2012.

NOT TO SCALE

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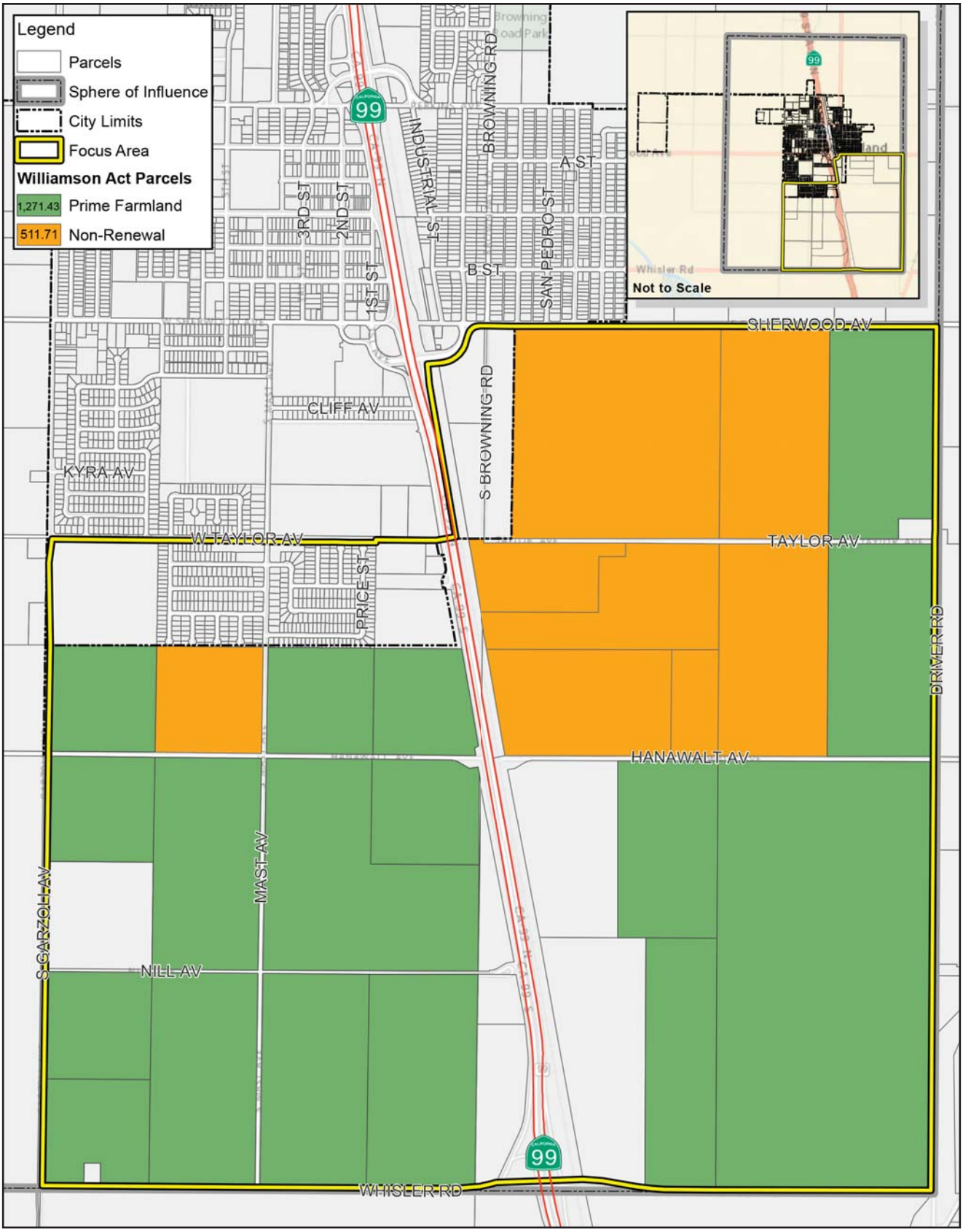
ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

California Important Farmland Areas

Exhibit 5.11-1



Source: City of McFarland, Kern County.

NOT TO SCALE

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ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

California Williamson Act Contract Areas

Exhibit 5.11-2

1. Land which qualifies for rating as class I or class II in the Natural Resources Conservation Service land capability classification system.

2. Land which qualifies for rating 80 to 100 in the Storie Index Rating system.

3. Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.

4. Land planted with fruit or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than $200 per acre.

5. Land which has returned from the production of unprocessed agricultural plant production with an annual gross value of not less than $200 per acre for three of the previous five years.

Within Kern County, approximately 1,703,364 acres of farmland are currently under Williamson Act Contracts.

CITY OF MCFARLAND

McFarland Open Space, Conservation, and Recreation Element

Agricultural preservation and conservation issues are addressed in the Open Space, Conservation, and Recreation Element of the McFarland General Plan. The Open Space, Conservation, and Recreation Element contains goals, objectives, policies, and implementations that address agricultural lands.

McFarland Land Use Element

Agricultural preservation and conservation issues are also addressed in the Land Use Element of the McFarland General Plan. The Land Use Element contains the following goals, objectives, policies, and implementations that address the protection as well as the transition of agricultural uses for development.

5.11.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use; refer to Impact Statement AGR-1.

- Conflict with existing zoning for agricultural use, or a Williamson Act contract; refer to Impact Statement AGR-2.

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); refer to Section 8.0, *Effects Found Not To Be Significant*.

- Result in the loss of forest land or conversion of forest land to non-forest use; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these standards, the project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact."

5.11.4 IMPACTS AND MITIGATION MEASURES

CONVERSION OF FARMLAND

AGR-1 THE PROJECT COULD CONVERT PRIME FARMLAND, UNIQUE FARMLAND, OR FARMLAND OF STATEWIDE IMPORTANCE (FARMLAND), AS SHOWN ON THE MAPS PREPARED PURSUANT TO THE FARMLAND MAPPING AND MONITORING PROGRAM OF THE CALIFORNIA RESOURCES AGENCY, TO NON-AGRICULTURAL USE.

Impact Analysis: The project area includes approximately 1,989.78 acres of land that has been designated as Prime Farmland through the Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation. Although designated as Prime Farmland in the FMMP, existing agricultural operations are not occurring on all of the designated land.

A portion of the 1,990 acres of Prime Farmland with the project area are located within the City limits; refer to Exhibit 5.11-1. These sites are currently designated as Low Density Residential or Manufacturing and are not designated Agriculture or in agricultural production. A school and associated ball fields are under construction at the southeast corner of Taylor and Garzoli Avenues. Other sites are operating as a commercial use or being used for vehicle and equipment storage. The proposed land use changes would reflect land uses that are currently developed on the site or being developed (e.g., Public and Institutional) and/or guide future development of undeveloped or underutilized sites (e.g., Mixed-Use, Light Industrial, Commercial). The proposed project would not convert prime farmland to a non-agricultural use, as these sites are not currently in agriculture production and would likely not be eligible for inclusion on the next release of the Important Farmland maps. The McFarland General Plan includes goals and policies to protect agricultural land including requiring development projects to pay an Agricultural Land Impact Fee (Policy G5.5). The City also maintains a policy to phase

growth and development to prevent the premature conversion of agricultural lands (Policy G5.3). Thus, impacts would be less than significant in this regard.

The project also proposes to establish General Plan land use designations for sites within the City's SOI. These land use designations would include Low Density Residential, Medium Density Residential, Mixed-Use, Professional Office, Highway Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses in anticipation of future annexation. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. Current land uses and County land use designations would not be altered by the project.

The McFarland General Plan includes Policy G5.9 which requires a Land Evaluation and Site Assessment Model analysis to be performed for annexation projects to determine the significance of impacts to agricultural resources. Further, in reviewing future annexation proposals, LAFCO would consider several factors including, but not limited to the effect of the proposed action and of alternative actions, on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county; the conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, efficient patterns of urban development, and the policies and priorities in California Government Code Section 56377 which pertain to prime agricultural lands; and the effect of the proposal on maintaining the physical and economic integrity of agricultural lands.

Annexation requests and development activities would be reviewed by the City to ensure compliance with the City's General Plan. Future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. Any lands identified through the FMMP as prime farmland, proposed for conversion to non-agricultural use would be evaluated to determine if the land meets the definition of prime farmland at that time. As the project would not result in the conversion of prime farmland, unique farmland, or farmland of statewide importance (farmland), to non-agricultural use within the SOI, impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 1: Achieve a balanced distribution of open space land which will provide an attractive environment essential to a sound economy.

Policy 1-a: Avoid premature conversion of agricultural lands to urban uses to prevent the adverse effects of urban sprawl.

Objective 2: Encourage activities that give McFarland its unique "Small Farm Town" atmosphere.

Objective G5: Protect Agricultural Land.

Policy G5.1: Agricultural production areas shall be preserved as an important economic activity.

Policy G5.3: The City shall phase future growth and development to provide for orderly growth and prevent the premature conversion of agricultural lands.

Policy G5.5: Development projects shall pay an Agricultural Land Impact fee in accordance with the fee established by the City Council of the City of McFarland.

Policy G5.6: For single family residential uses, a fee shall be assessed upon the sale of a residential unit within a project that was subject to the Agricultural Land Impact fee in accordance with the fee established by the City Council of the City of McFarland.

Policy G5.7: Said fee shall be collected by the City for use by a land conservancy entity operating within the County of Kern to conserve agricultural land.

Policy G5.8: The City shall work with the land conservancy to have the first priority of conserving agricultural land to be within the McFarland area.

Policy G5.9: A Land Evaluation and Site Assessment Model analysis shall be performed for annexation projects to determine the significance of impact to agricultural resources.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

CONFLICT WITH EXISTING ZONING OR WILLIAMSON ACT CONTRACT

AGR-2 THE PROJECT WOULD NOT CONFLICT WITH EXISTING ZONING FOR AGRICULTURAL USE, OR A WILLIAMSON ACT CONTRACT.

Impact Analysis: The project consists of assigning land uses within the City's SOI, redesignating some existing properties within the City, and a GPA in order to add two new land use designations. There are no Williamson Act Contracts associated with any parcels that are located within the City boundaries. As stated, parcels within the City are currently designated as Low Density Residential or Manufacturing and are not designated Agriculture or in agricultural production. A school and associated ball fields are under construction at the southeast corner of Taylor and Garzoli Avenues. Other sites are operating as a commercial use or being used for vehicle and equipment storage. The proposed land use changes would reflect land uses that are currently developed on the site or being developed (e.g., Public and Institutional) and/or guide future development of undeveloped or underutilized sites (e.g., Mixed-Use, Light Industrial, Commercial). Further, the proposed project would not involve direct modifications to existing zoning designations within the City. As such, any existing agricultural uses could continue to operate.

The portion of the project area within the City's SOI includes lands that are under a Williamson Act Contract. Approximately 1,271.43 acres of land within a Williamson Act Contract are designated Prime Farmland and the remaining approximately 511.71 acres are designated Non-Renewal. Land uses within the SOI are under the jurisdiction of Kern County. The

establishment of land use designations by the City within its SOI would not alter the existing land use and zoning designations established by the County, nor the status of any Williamson Act Contracts. Thus, impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.11.5 CUMULATIVE IMPACTS

AGRICULTURAL RESOURCES

AGR-3 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO AGRICULTURAL RESOURCES.

Impact Analysis: Future development projects in the City of McFarland, County of Kern, and the region could result in the loss of agricultural resources. Development in the region impacting agricultural resources designated as prime farmland, farmland of statewide importance, unique farmland, grazing lands, or farmland of local importance would be considered a significant impact.

Within the City, there are parcels identified as prime farmland. However, these parcels are currently under development with non-agricultural uses or are not in agricultural production. The proposed land use changes would reflect land uses that are currently developed on the site or being developed (e.g., Public and Institutional) and/or guide future development of undeveloped or underutilized sites (e.g., Mixed-Use, Light Industrial, Commercial). The McFarland General Plan includes goals and policies to protect agricultural land including requiring development projects to pay an Agricultural Land Impact Fee (Policy G5.5). The City also maintains a policy to phase growth and development to prevent the premature conversion of agricultural lands (Policy G5.3). Thus, impacts would be less than significant in this regard.

The project also proposes to establish General Plan land use designations for sites within the City's SOI. These land use designations would include Low Density Residential, Medium Density Residential, Mixed-Use, Professional Office, Highway Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses in anticipation of future annexation. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. Current land uses and County land use designations would not be altered by the project. Annexation requests and development activities would be reviewed by the City to ensure compliance with the City's General Plan. Future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. Any lands identified through the FMMP as prime farmland, proposed for conversion to non-agricultural use would be evaluated

to determine if the land meets the definition of prime farmland at that time. As the project would not result in the conversion of prime farmland, unique farmland, or farmland of statewide importance (farmland), to non-agricultural use within the SOI, impacts would not be cumulatively considerable.

No properties located within the City are under Williamson Act contracts. Although parcels within the SOI are encumbered under such contracts, they would not be affected by the proposed project. Existing zoning for these sites would remain unchanged. Thus, cumulative impacts associated with existing zoning for agricultural use or a Williamson Act contract would not be cumulatively considerable. A less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.11.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts to agriculture and forestry resources associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies. No significant unavoidable impacts to agriculture and forestry resources would occur as a result of project implementation

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Section 5.12
Mineral Resources

5.12 MINERAL RESOURCES

This section describes the existing conditions, affected environment, and regulatory setting with regard to mineral resources within the project area. Impacts on mineral resources that would occur as a result of the proposed project area analyzed, and mitigation measures that would reduce these impacts are recommend, if applicable.

5.12.1 EXISTING SETTING

Kern County is located within District 4 of the State Division of Oil, Gas, and Geothermal Resources (DOGGR), and is one of the largest producers of mineral products in California with a production value of almost one-quarter of the State's total.[1] Kern County is the highest producer of petroleum (an organic derivative material) in California, and is one the leading petroleum-producing counties in the United States. The remaining mineral resources consists of borax, cement products, sand and gravel, and other construction and gem-like minerals. Current trends of increasing demand for borax, cement, and construction aggregates, as well as other minerals found in the County, are expected to continue.

OIL AND GAS RESOURCES

Kern County leads the State in oil and natural gas production. Kern County produces approximately 75 percent of California's in-State oil and about 58 percent of the State's total natural gas. Kern County's Elk Hills field is the State's top natural gas producer. Two other fields, South Belridge and Lost Hills, rank in the State's top five for gas production. The State's top five oil producing fields, Midway-Sunset, South Belridge, Kern River, Cymric, and Elk Hills, are located in Kern County. Three of these fields, Midway-Sunset, South Belridge and Kern River are ranked in the top 10 producing oil fields in the nation. If Kern County were a State, it would rank fourth in oil production.[2] Mineral and petroleum resources are a vital component of Kern County's employment base and economy. As new retrieval technologies come into use, petroleum extraction should continue its economic importance. Although California has increased efforts and laws to promote renewable energy resources and alternative transportation fuels, it is anticipated that oil and gas production within Kern County will continue to be critical, and domestic oil and gas production will continue to be a vital national interest.

AGGREGATE MATERIALS RESOURCES (SAND AND GRAVEL)

The State Geologist has designated 2,971 square miles of land within Kern County as Mineral Resource Zones (MRZs) of varying significance.[3] The designated mineral resource zones in the County are for aggregate resources, consisting of stone, sand, and gravel, generally suitable for use in building and road construction. The MRZs are classified as described below:

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.

[1] County of Kern, *Kern County General Plan Recirculated Program Environmental Impact Report*, January 2004.

[2] Greater Bakersfield Chamber of Commerce, *Oil and Energy*, https://www.bakersfieldchamber.org/oil-energy/, accessed November 9, 2015.

[3] County of Kern, *Environmental Impact Report for Revisions to the Kern County Zoning Ordinance*, July 2015.

- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.

- MRZ-3: Areas containing known or inferred mineral occurrences of undetermined mineral resource significance.

MRZ-1 and MRZ-2 districts have been classified within Kern County. The remainder of the County either has not been studied for the presence of aggregate material resources or is designated as MRZ-3 where inferred occurrences of resources are of undetermined significance (California Geological Survey [CGS], 2009).

The Kern County Land Use, Open Space, and Conservation Element designates areas within the County that contain producing or potentially productive petroleum fields, natural gas, and geothermal resources, and mineral deposits of regional and Statewide significance (Map Code 8.4, Mineral and Petroleum). Uses are limited to activities directly associated with the resource extraction. Minimum parcel size is five acres gross. Uses include, but are not limited to, the following: Mineral and petroleum exploration and extraction, including aggregate extraction; extensive and intensive agriculture; mineral and petroleum processing (excluding petroleum refining); natural gas and geothermal resources; pipelines; power transmission facilities; communication facilities; equipment storage yards; and borrow pits. According to the Kern County General Plan, Central Section map, the planning area does not contain land that is designated as Map Code 8.4.[4] The nearest mineral and/or petroleum areas designated by the Kern County Land Use, Open Space, and Conservation Element are located over five miles from the City's planning area.

According to the McFarland General Plan, petroleum and natural gas are the only mineral resources of relative importance within the General Plan planning area. It is likely that an untapped petroleum reserve and/or natural gas reserve are located within the limits of the General Plan planning area. The City authorizes drilling in certain zones and under certain circumstances. Petroleum production currently occurs within approximately 15 miles of the City.

According to the McFarland General Plan, there is also a strong possibility of the presence of sand and gravel deposits within the General Plan planning area. These materials are presently excavated approximately fifteen miles eastward from McFarland in the foothill slopes. Gypsum is mined about 30 miles west of the City of McFarland. This may indicate a rather remote concentration, but the presence of gypsum in pockets could well mean its availability closer than presently suggests. The same controls on the excavation of oil and gas, and sand and gravel are applied to mining of gypsum.

The portion of the project area within the City limits is currently designated Low Density Residential, Manufacturing, and Commercial, and zoned Single-Family Residential, Multi-Family Residential/Precise Development, Light Agricultural, Light Manufacturing, Light Manufacturing/ Precise Development, and Commercial. It is primarily developed or anticipated for future development. The portion of the project area within the Sphere of Influence (SOI) is not

[4] County of Kern, *Kern County, Central Section,* http://www.co.kern.ca.us/planning/pdfs/kcgp/kc_gp_central.pdf, accessed November 9, 2015.

currently designated by the McFarland General Plan. It is designated by the County General Plan as Intensive Agriculture, Flood Hazard, and Solid Waste Facilities. The Intensive Agriculture designation would allow for mineral and petroleum exploration and extraction.

5.12.2 REGULATORY SETTING

FEDERAL

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) was mandated in order to provide a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state's mineral resources, and ensures that those resources are available when needed. SMARA requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions are made that could preclude mining.

STATE

Division of Oil, Gas, and Geothermal Resources

The California Division of Oil, Gas, and Geothermal Resources (DOGGR) is a State agency responsible for supervising the drilling, operation, maintenance, and plugging and abandonment of oil, gas, and geothermal wells. DOGGR's regulatory programs include: well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring. DOGGR promotes these programs through sound engineering practices, prevention of pollution, and implementation of public safety programs. DOGGR requires avoidance of building over or near plugged or abandoned oil and gas wells, or requires the remediation of wells to current DOGGR standards.

State Mining and Geology Board

Pursuant to SMARA, mineral lands are mapped with the California Mineral Land Classification System according to jurisdictional boundaries. All mineral commodities in the area are mapped at one time. Priority is given to areas where future mineral resource withdrawal could be prohibited by incompatible land uses or mineral resources are likely to be mined during the 50-year period following their classification. Detailed mineral land classification and designation reports provided by the State Mining and Geology Board (SMGB) are on file at the County of Kern.

The SMGB established MRZs to designate lands that contain mineral deposits. Accordingly, the MRZ classification system is used to evaluate an area's mineral resources pursuant to SMARA. A "resource" is a concentration of naturally occurring solid, liquid, or gaseous material in such form and amount that economic extraction of the commodity from the concentration is currently potentially feasible. A "reserve" is that part of the resource base that could be

economically extracted or produced within the foreseeable future. For any given mineral resource, an area may be classified as MRZ-1, MRZ-2, MRZ-3, or MRZ-4, as follows:

- MRZ-1: Areas where the available geologic information indicates that no significant mineral deposits are present or where it is judged that no significant likelihood exists for their presence.
- MRZ-2a: Areas where the available geologic information indicates that significant mineral deposits are present.
- MRZ-2b: Areas where the available geologic information indicates that there is likelihood for the presence of significant mineral deposits.
- MRZ-3a: Areas where the available geologic information indicates that mineral deposits exist, but the significance of the deposits cannot be determined from available data.
- MRZ-3b: Areas where the available geologic information indicates that mineral deposits are likely to exist, but the significance of the deposits cannot be determined from available data.
- MRZ-4: Areas where the available geologic information is inadequate for assignment into any other MRZ or where there is not enough information available to determine the presence or absence of mineral deposits.

As described in Section 5.12.1, *Environmental Setting*, Kern County contains mineral resource areas classified as MRZ-1, MRZ-2, and MRZ-3. According to the SMGB, "Designation" is the process by which the SMGB determines that a particular classified mineral deposit is of regional, multi-community, or statewide economic significance. This process is facilitated through analyses by the CGS, and information gathered from local communities, the mining industry, and other governmental agencies. The purpose of Designation is to identify areas that are of prime importance in meeting future needs of the study region and that remain available from a land use perspective.

CITY OF MCFARLAND

McFarland General Plan

The McFarland General Plan does not contain any goals, objectives, policies, or implementation actions that address mineral resources that would be applicable to the proposed project.

5.12.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; refer to Impact Statement MR-1.

- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; refer to Impact Statement MR-2.

5.12.4 IMPACTS AND MITIGATION MEASURES

REGIONAL OR STATE MINERAL RESOURCES

MR-1 THE PROPOSED PROJECT WOULD NOT RESULT IN THE LOSS OF AVAILABILITY OF A KNOWN MINERAL RESOURCE THAT WOULD BE OF VALUE TO THE REGION AND THE RESIDENTS OF THE STATE.

Impact Analysis: The project area is not located on lands classified as MRZs by the State, nor is it zoned for or immediately adjacent to lands designated as Mineral and Petroleum areas by the McFarland General Plan or Kern County General Plan. There is no land designated as 8.4 (Mineral and Petroleum area) in the Kern County General Plan within a five mile radius of the site. Additionally, there are no active or proposed mining operations within the project area. As noted above, the McFarland General Plan states that there is likely an untapped petroleum reserve and/or natural gas reserve located within the limits of the General Plan planning area. However, as the project does not involve any mineral extraction or mining activities, the proposed project would not interfere with nearby mineral extraction operations, and would not result in the loss of land designated for mineral resources. Therefore, a less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

LOCALLY IMPORTANT MINERAL RESOURCES

MR-2 THE PROJECT WOULD NOT RESULT IN THE LOSS OF AVAILABILITY OF A LOCALLY IMPORTANT MINERAL RESOURCE RECOVERY SITE DELINEATED ON A LOCAL GENERAL PLAN, SPECIFIC PLAN, OR OTHER LAND USE PLAN.

Impact Analysis: The project area is not located on land designated for mineral resources by the McFarland General Plan or Kern County General Plan. However, the General Plan planning area is likely to be located on top of an untapped petroleum reserve and/or natural gas reserve.[5] However, the proposed project does not consist of any drilling or mining activities, and would not conflict with the McFarland General Plan or any specific plan, or other land use plan.

[5] City of McFarland, *Open Space, Conservation and Recreation Element*, 2011.

Therefore, the project would not result in the loss of a locally important mineral resource recovery site. A less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

5.12.5 CUMULATIVE IMPACTS

CUMULATIVE IMPACTS TO REGIONAL, STATE, OR LOCALLY IMPORTANT MINERAL RESOURCES

MR-3 THE PROJECT WOULD NOT CUMULATIVELY CONTRIBUTE TO THE LOSS OF AVAILABILITY OF A REGIONAL, STATE, OR LOCALLY IMPORTANT MINERAL RESOURCE.

Impact Analysis: As described above, the project would not interfere with the recovery of other mineral resources within the project area or cause any potentially significant adverse impacts to mineral resource recovery outside the project area. In addition, any cumulative projects in the vicinity of the project area would be reviewed to ensure that the proposed development would be consistent with the McFarland General Plan with regard the mineral resources. As a result, the project would not result in a cumulatively considerable contribution to cumulative impacts to mineral resources and the impact would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

5.12.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts to mineral resources associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies and recommended mitigation measures. No significant unavoidable impacts to mineral resources would occur as a result of project implementation.

Section 5.13
Hydrology and Water Quality

5.13 HYDROLOGY AND WATER QUALITY

This section describes the existing conditions related to hydrology, drainage, and water quality within the City. Hydrologic and drainage impacts that could result from implementation of the proposed General Plan Amendment (GPA) are identified. This analysis is based on the *Hydrology and Water Quality Technical Appendix* (Hydrology Report), prepared by Michael Baker International, dated October 2015; refer to Appendix H, *Hydrology and Water Quality Report*.

5.13.1 EXISTING SETTING

WATERSHED

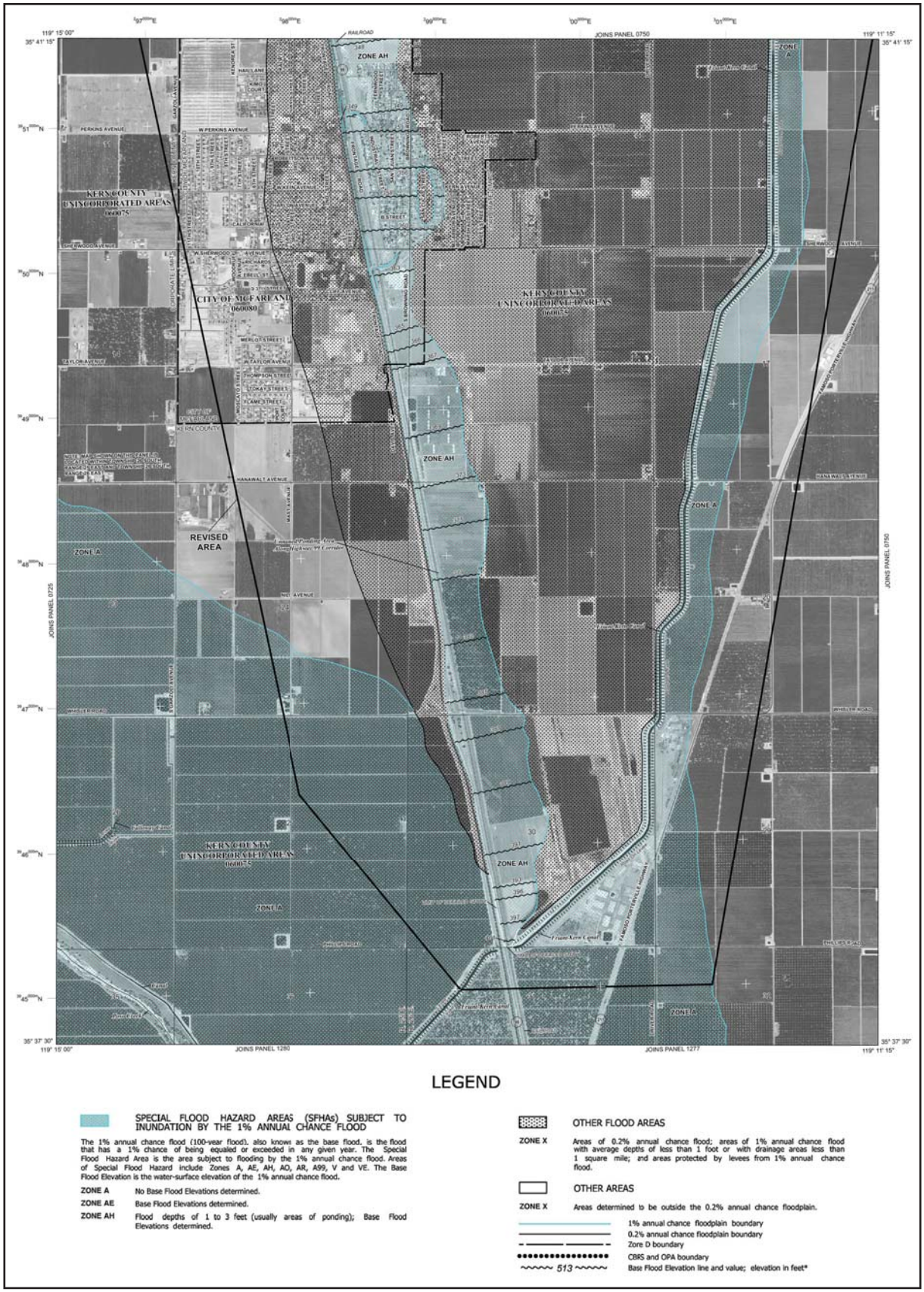
The City of McFarland and its surrounding area lies in a very flat portion of the Tulare-Buena Vista Basin with a gradual south to north grade. Stream channels east of Highway 65 are well defined, but as they approach the Friant-Kern Canal, they become broad flood plains flowing through the local orchards and fields. The Friant-Kern Canal acts as a levee structure to the east of the City, providing some protection against the runoff from the mountains. The Union Pacific Railroad and portions of Highway 99 also act as small levees, separating the west and east portions of the City. The highway and railroad contain most of the regional flooding to the eastern part of the City as depicted in Exhibit 5.13-1, *Existing 100-Year Flood Zone*.

Based on the Hydrology Report, two sources of regional flooding occur in the eastern portion of the City as a result of: (1) Overflow of Poso Creek located to the south of the project site; and (2) Runoff from the mountains to the east of the project site. Runoff from the mountains moves along the Friant-Kern Canal south to Highway 99. The runoff then combines with overflows from Poso Creek and moves north across the canal siphon into the City. The City of McFarland is also subject to the 100-year flood runoff from the east resulting from flow overtopping the Friant-Kern Canal levee. Currently there are no storm water basins or channels which intercept the regional overflow from Poso Creek or the mountains to the east.

The location, topography, and land uses in and around the City pose unique drainage situations for the way local runoff is contained. As the City has been developed on predominantly agricultural lands, sump basins are the primary facilities used to retain the local storm water flows. Local streets and storm drain facilities direct flow to nine sump basins located throughout the City; refer to Exhibit 5.13-2, *Existing Flood Control Structures*. The basins have no natural outlet to larger bodies of water, which restricts the removal of runoff to percolation or evaporation. For the purposes of this analysis, the general plan area was divided into 13 areas; refer to Table 5.13-1, *Existing Area Characteristics,* and Exhibit 5.13-3, *Existing Area Characteristics*. In most cases the area represents the tributary area to each sump basin.

Hydrology

The City's established drainage pattern is overland flow in a north to south direction through the City to the Tulare Lake Basin. The City of McFarland and its Sphere of Influence (SOI) consists of a mixture of residential, commercial, industrial, and agricultural land uses. The Hydrology Report qualitatively identifies the existing impervious conditions for the project site based on land uses identified in the General Plan. The types of land use and vegetation or ground cover affects the infiltration rate. Table 5.13-2, *Existing Impervious Areas*, provides a summary of the land uses and the corresponding impervious values estimated based on those land uses identified.



Source: Federal Emergency Management Agency, *Flood Insurance Rate Map, Map Number 06029C0740E*, effective date September 26, 2008.

NOT TO SCALE

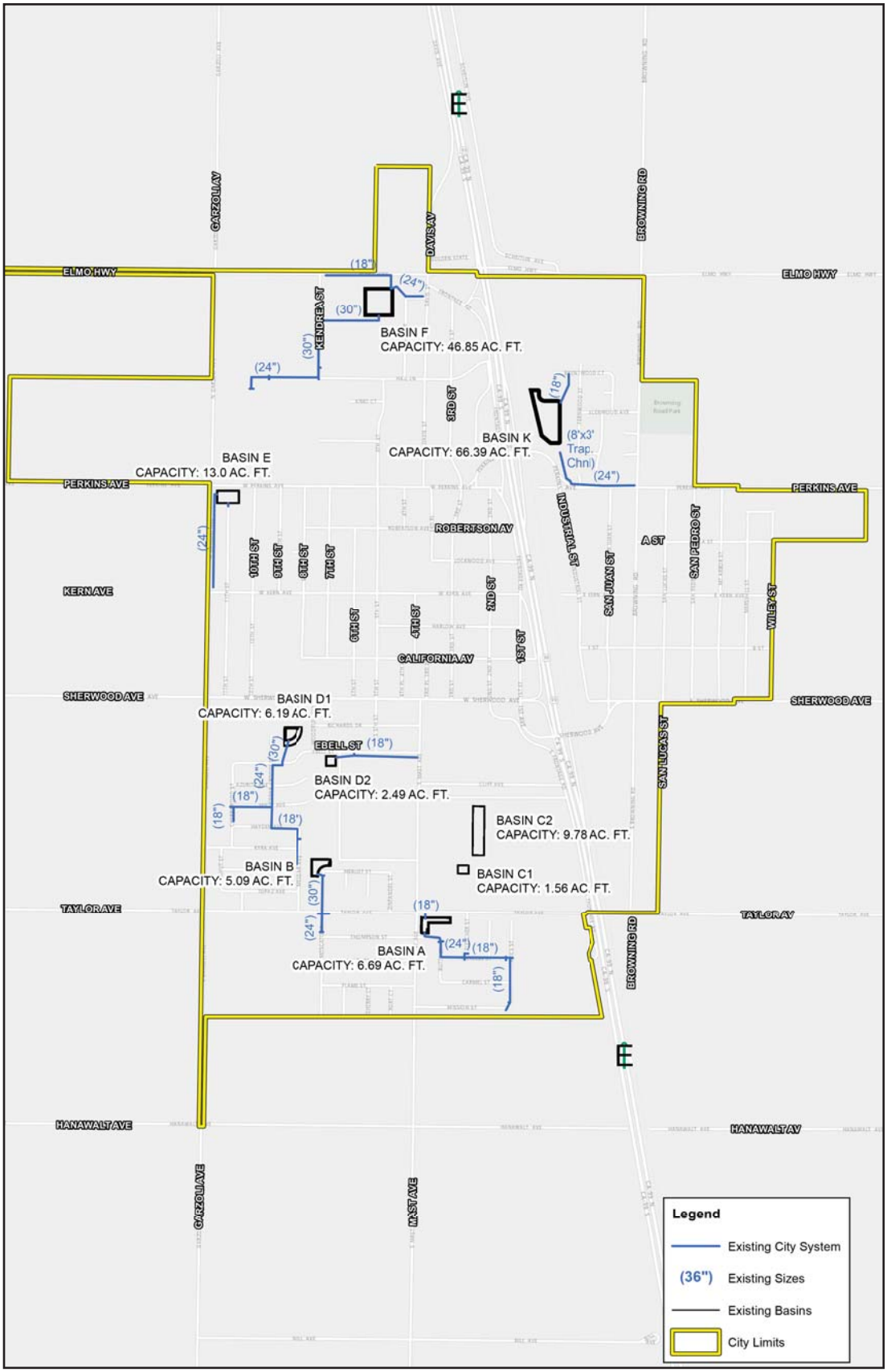
Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Existing 100-Year Flood Zone

Exhibit 5.13-1



NOT TO SCALE

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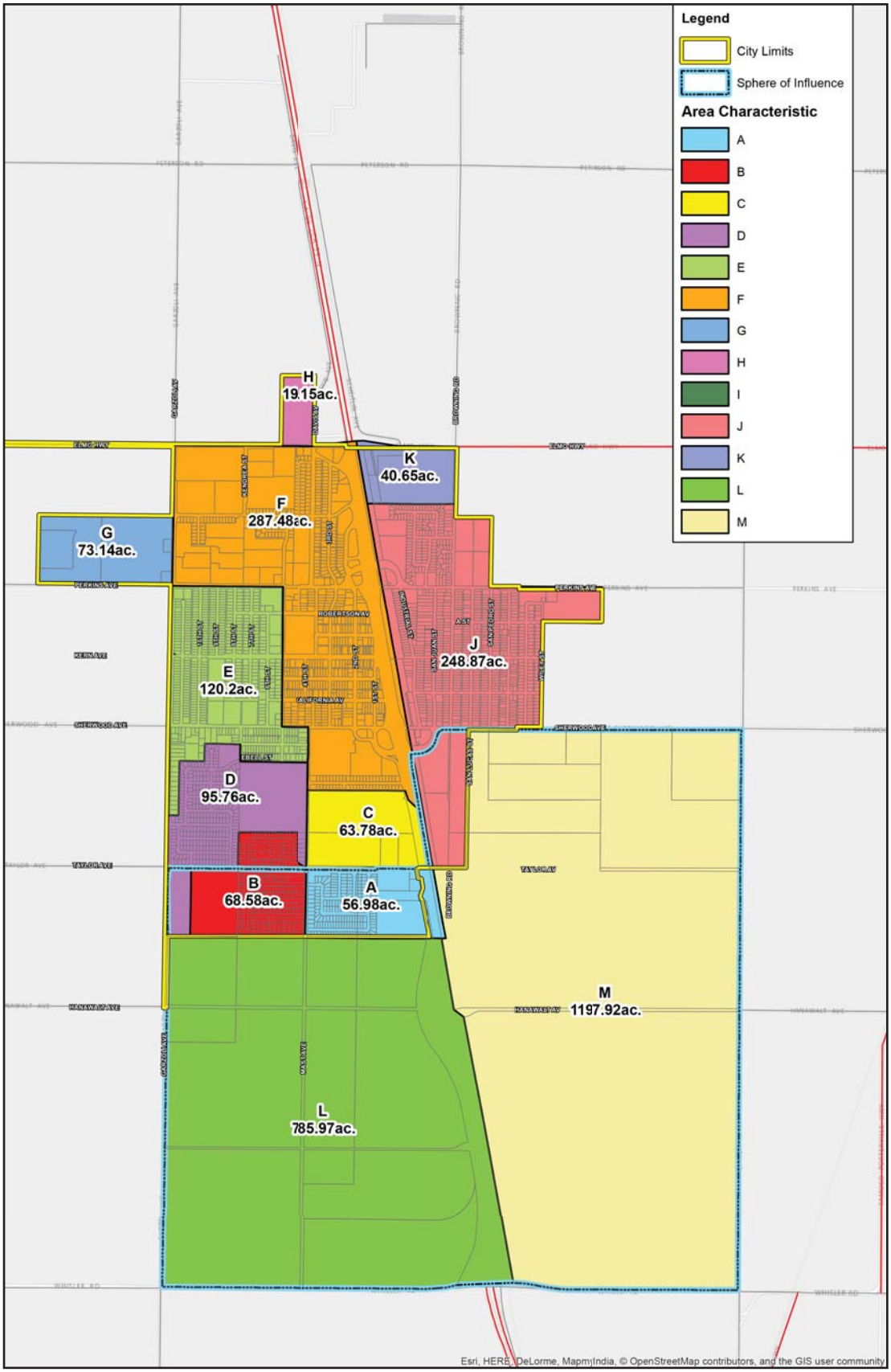
ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Existing Flood Control Structures

Exhibit 5.13-2



NOT TO SCALE

Michael Baker INTERNATIONAL

04/16 • JN 143076

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Existing Area Characteristics

Exhibit 5.13-3

Table 5.13-1
Existing Area Characteristics

Areas[1]	Area (acres)	Impervious Area[2] (C)
A	56.98	0.4655
B	68.58	0.4000
C	63.87	0.6349
D	95.76	0.4000
E	120.20	0.4607
F	287.48	0.5485
G	73.14	0.4000
H	19.15	0.9000
I	234.38	0.0035
J	248.87	0.5792
K	40.65	0.5628
L	785.97	0.0000
M	1,197.92	0.0000

Notes:
(C) = coefficient
1. Refer to Exhibit 5.13-3, *Existing Area Characteristics*, for a mapping of each area identified.
2. Percent impervious was based on an area average. Areas L and M are currently designated as Agricultural lands.

Source: Michael Baker International, *Hydrology and Water Quality Technical Appendix*, dated October 2015; refer to Appendix H.

Table 5.13-2
Existing Impervious Areas

Hydrology Manual	General Plan Land Use Designation	Impervious Area[1] (C)
Natural or Agriculture	Agriculture	0.00
Commercial, Downtown Business, or Industrial	Commercial	0.90
Public Park	Existing Park	0.15
Commercial, Downtown Business, or Industrial	Government	0.90
Commercial, Downtown Business, or Industrial	Heavy Commercial	0.90
Single Family Residential 8-10 dwelling units per acre	High Density	0.60
Commercial, Downtown Business, or Industrial	Highway Commercial	0.90
Single Family Residential 3-4 dwelling units per acre	Low Density	0.40
Commercial, Downtown Business, or Industrial	Manufacturing	0.90
Single Family Residential 5-7 dwelling units per acre	Medium Density	0.50
Public Park	Proposed Park	0.15
Single Family Residential 5-7 dwelling units per acre	Residential Reserve	0.40
School	School	0.40
Commercial, Downtown Business, or Industrial	SM	0.90

Notes:
(C) = coefficient
1. Percent impervious was based on an area average. Areas L and M are currently designated as Agricultural lands.

Source: Michael Baker International, *Hydrology and Water Quality Technical Appendix*, dated October 2015; refer to Appendix H.

FLOODING

Portions of the City, east of Highway 99, are susceptible to flooding due to the relatively flat topography. The City is a participant in the National Flood Insurance Program (NFIP). Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. Participation in the NFIP allows communities to purchase low cost insurance protection against losses from flooding. The published Flood Insurance Rate Maps (FIRMs) for the project area are depicted on Exhibit 5.13-1. The portion of the City to the west of State Route 99 (SR-99) is outside the 100-year flood zone, while most of the eastern portion of the City is located within the 100-year flood zone.

PHYSICAL CHARACTERISTICS OF SURFACE WATER QUALITY

Standard parameters, which can assess the quality of storm water, provide a method of measuring impairment. A background of these typical characteristics assists in understanding water quality requirements. The quantity of a material in the environment and its characteristics determine the degree of availability as a pollutant in surface runoff. In an urban environment, the quantity of certain pollutants in the environment is a function of the intensity of the land use. For instance, a high density of automobile traffic makes a number of potential pollutants (such as lead and hydrocarbons) more available. The availability of a material, such as a fertilizer, is a function of the quantity and the manner in which it is applied. Applying fertilizer in quantities that exceed plant needs leaves the excess nutrients available for loss to surface or ground water.

The physical properties and chemical constituents of water traditionally have served as the primary means for monitoring and evaluating water quality. Evaluating the condition of water through a water quality standard refers to its physical, chemical, or biological characteristics. Water quality parameters for storm water comprise a long list and are classified in many ways. In many cases, the concentration of an urban pollutant (rather than the annual load of that pollutant) is needed to assess a water quality problem. Some of the physical, chemical, or biological characteristics that evaluate the quality of the surface runoff are outlined below.

Dissolved Oxygen (DO)

Dissolved oxygen (DO) in the water has a pronounced effect on the aquatic organisms and the chemical reactions that occur. It is one of the most important biological water quality characteristics in the aquatic environment. The dissolved oxygen concentration of a water body is determined by the solubility of oxygen, which is inversely related to water temperature, pressure, and biological activity. DO is a transient property that can fluctuate rapidly in time and space. DO represents the status of the water system at a particular point and time of sampling. The decomposition of organic debris in water is a slow process and the resulting changes in oxygen status respond slowly also. The oxygen demand is an indication of the pollutant load and includes measurements of biochemical oxygen demand or chemical oxygen demand.

Biochemical Oxygen Demand (BOD)

The biochemical oxygen demand (BOD) is an index of the oxygen-demanding properties of the biodegradable material in the water. Samples are taken from the field and incubated in the laboratory at 20°C, after which the residual dissolved oxygen is measured. The BOD value

commonly referenced is the standard 5-day values. These values are useful in assessing stream pollution loads and for comparison purposes.

Chemical Oxygen Demand (COD)

The chemical oxygen demand (COD) is a measure of the pollutant loading in terms of complete chemical oxidation using strong oxidizing agents. It can be determined quickly because it does not rely on bacteriological actions as with BOD. COD does not necessarily provide a good index of oxygen demanding properties in natural waters.

Total Dissolved Solids (TDS)

Total dissolved solids (TDS) concentration is determined by evaporation of a filtered sample to obtain residue whose weight is divided by the sample volume. The TDS of natural waters varies widely. There are several reasons why TDS is an important indicator of water quality. Dissolved solids affect the ionic bonding strength related to other pollutants such as metals in the water. TDS are also a major determinant of aquatic habitat. TDS affects saturation concentration of dissolved oxygen and influences the ability of a water body to assimilate wastes. Eutrophication rates depend on TDS.

pH

The pH of water is the negative log, base 10, of the hydrogen ion (H+) activity. A pH of seven is neutral; a pH greater than seven indicates alkaline water; a pH less than seven represents acidic water. In natural water, carbon dioxide reactions are some of the most important in establishing pH. The pH at any one time is an indication of the balance of chemical equilibrium in water and affects the availability of certain chemicals or nutrients in water for uptake by plants. The pH of water directly affects fish and other aquatic life and generally toxic limits are pH values less than 4.8 and greater than 9.2.

Alkalinity

Alkalinity is the opposite of acidity, representing the capacity of water to neutralize acid. Alkalinity is also linked to pH and is caused by the presence of carbonate, bicarbonate, and hydroxide, which are formed when carbon dioxide is dissolved. A high alkalinity is associated with a high pH and excessive solids. Most streams have alkalinities less than 200 mg/l and ranges of alkalinity of 100-200mg/l seem to support well-diversified aquatic life.

Specific Conductance

The specific conductivity of water, or its ability to conduct an electric current, is related to the total dissolved ionic solids. Long-term monitoring of a project's waters can develop a relationship between specific conductivity and TDS. Its measurement is quick and inexpensive and can be used to approximate TDS. Specific conductivities in excess of 2,000 micro-ohms per centimeter (µohms/cm) indicate a TDS level too high for most freshwater fish.

Turbidity

The clarity of water is an important indicator of water quality that relates to the ability of photosynthetic light to penetrate. Turbidity is an indicator of the property of water that causes

light to become scattered or absorbed. Suspended clays and other organic particles cause turbidity. It can be used as an indicator of certain water quality constituents such as predicting the sediment concentrations.

Nitrogen (N)

Sources of nitrogen in storm water are from the additions of organic matter to water bodies or chemical additions. Ammonia and nitrate are important nutrients for the growth of algae and other plants. Excessive nitrogen can lead to eutrophication since nitrification consumes dissolved oxygen in the water. Nitrogen occurs in many forms. Organic Nitrogen breaks down into ammonia, which eventually becomes oxidized to nitrate-nitrogen, a form available for plants. High concentrations of nitrate-nitrogen (N/N) in water can stimulate growth of algae and other aquatic plants, but if phosphorus (P) is present, only about 0.30 mg/l of nitrate-nitrogen is needed for algal blooms. Some fish life can be affected when nitrate-nitrogen exceeds 4.2 mg/l. There are a number of ways to measure the various forms of aquatic nitrogen. Typical measurements of nitrogen include Kjeldahl nitrogen (organic nitrogen plus ammonia); ammonia; nitrite plus nitrate; nitrite; and nitrogen in plants. The principal water quality criteria for nitrogen focus on nitrate and ammonia.

Phosphorus (P)

Phosphorus is an important component of organic matter. In many water bodies, phosphorus is the limiting nutrient that prevents additional biological activity from occurring. The origin of this constituent in urban storm water discharge is generally from fertilizers and other industrial products. Orthophosphate is soluble and is considered to be the only biologically available form of phosphorus. Since phosphorus strongly associates with solid particles and is a significant part of organic material, sediments influence concentration in water and are an important component of the phosphorus cycle in streams. The primary methods of measurement include detecting orthophosphate and total phosphorus.

EXISTING STORM WATER QUALITY

Currently, the General Plan area contains residential dwellings, commercial buildings, and agricultural land. The expected existing pollutants in the existing condition storm water runoff from the developed areas of McFarland are oil and grease from automobile use. Pollutants associated with residential, commercial, and industrial development (such as trash, nutrients, bacteria, oil and grease, and household hazardous wastes). The undeveloped areas may also contribute suspended solids in the storm water runoff.

IDENTIFIED BENEFICIAL USES OF RECEIVING WATERS

The Southern San Joaquin Municipal Utility District (District), with jurisdiction in the project area, has identified beneficial uses of receiving waters per the *2010 Water Management Plan* (WMP). The district has identified beneficial uses associated with Pixley National Wildlife Refuge. A goal of the WMP is to provide increased water supply to the refuge for beneficial uses via providing long-term diversion flexibility and decreasing flows to salt sinks. However, there are currently no specific plans in place to achieve these goals. The District does not have any habitat preservation or restoration sites, which could be the candidate areas for conserved water supply diversions. District growers have improved on-farm irrigation systems to the extent that in excess of 55 percent of these systems are permanent, low volume systems. This has

resulted in reduced losses to the soil mantle outside of the root zone. Resultant water savings have first been dedicated to improving crop yields with the periodic residual being the negotiating tool to allow the District to deal with reduced water supplies resulting from settlement of the San Joaquin River litigation.

GROUNDWATER

Based on the Kern County General Plan, the City is located within the Tulare Lake Hydrologic Region. This region includes roughly the southern two-thirds of the Central Valley. The San Joaquin River watershed forms the northern boundary of the region, and the Tehachapi Mountains form the southern boundary. The region is bounded to the east by the Sierra Nevada crest and by the Temblor Range to the west.

Basins

The region has 12 distinct groundwater basins and seven subbasins of the San Joaquin Valley Groundwater Basin which crosses north into the San Joaquin River Hydrological Region. Eleven of these areas are completely or partially within Kern County, and they are listed as follows: Cuyama Valley Basin, Carrizo Plain Basin, San Joaquin Valley basin with the Kern County Sub-basin, Kern River Valley Basin, Walker Creek Valley Basin, Cummings Valley Basin, Castac Lake Valley Basin, Cuddy Canyon Valley Basin, Cuddy Ranch Area Basin, Cuddy Valley Basin, Mil Potrero Area Basin, and Tehachapi Valley West Basin. Specifically, the project site is situated within the San Joaquin Valley basin with the Kern County Sub-basin.

Groundwater Recharge

According to the Kern County General Plan EIR, since most of California's groundwater basins are in the relatively arid valleys and most of the precipitation occurs at the higher mountainous elevations, natural recharge of the groundwater basins occurs mainly by percolation from streams flowing into and across the valleys. Natural recharge tends to occur in the area where the streams leave the mountains, since this is where coarser sedimentary material has been deposited.

In response to concerns regarding groundwater supplies, Kern County created the Kern Water Bank (KWB). The Kern Water Bank manages the recharging stream flow into the permeable aquifers during years of normal and surplus runoff and extracting the recharge ground water during dry years. This is one of the largest ground water banking operations in the United States.

Water banking was initiated in Kern County in 1978, and as of 2000, seven projects contain over 3 million acre-feet (maf) of banked water in a combined potential storage volume of 3.9 maf.[1] Approximately two-thirds of this storage is in the Kern River Fan area west of Bakersfield; the remainder is in the Arvin-Edison Water Storage District (WSD) in the southeastern sub-basin and the Semitropic WSD in the northwestern sub-basin.[2]

The signing of the Monterey Agreement (MA) in December of 1994 set the stage for the proposed transfer of ownership of the Kern Water Bank (KWB) from Department of Water

[1] Page 4-3-4 of the *Kern County General Plan Update Draft Recirculated Program EIR*, dated January 2004.

[2] Southern San Joaquin Municipal Utility District, *2010 Water Management Plan*, revised May 14, 2012.

Resources (DWR) to local Kern County water interests. The KWB property was purchased in 1988 for the purpose of implementing a large-scale ground water recharge and recovery program as part of the State Water Project (SWP). The MA resulted in the transfer of the 20,000 acres of KWB lands located on the lower Kern River Fan, west of Bakersfield and 579 acres of DWR owned lands located in the Rosedale-Rio Bravo WSD. These banking programs are currently limited to the San Joaquin Valley (Kern County subbasin). However, based on the WMP, the District, whom manages groundwater in the project area, does not participate in any groundwater banking projects.

Water Supply

Underground basins, the Kern River and other surface sources, the SWP and the Central Valley Water Supply Project (CVP) provide for the County's water supply.[3] With years of floods and years of droughts spaced among periods of normal supply, careful management practices have been developed and applied. About 60 percent of the water used for domestic and agricultural use is pumped from the several closed underground basins. Part of the remaining 40 percent of the water for these uses comes from the Kern River while the rest is imported. An average 700,000 acre-feet of run-off per year from the Kern River is available as a source for surface irrigation water and for the recharge of the underground basin. While the Kern River is a valuable asset, its run-off is insufficient to supply the surface water needed for Kern County to maintain its agricultural productivity. Development of supplemental water supplies became necessary as more water was pumped from underground supplies than was recharged by natural flows. The first to be developed was the CVP, which supplies an average 570,000 acre-feet annually. The most ambitious effort to improve local water supplies is the SWP, and has resulted in an increased economic benefit to the agricultural community. By 1990, SWP accounted for the importation of 1,153,000 acre-feet per year under Kern County Water Agency (KCWA) and 46,000 acre-feet per year by Antelope Valley-East Kern Water Agency.

Based on the WMP, the District was formed for the purpose of entering into a contract for purchase and distribution of water from the Central Valley Project (CVP).[4] With improved transportation facilities and development of large capacity water wells, irrigated agriculture superseded livestock production in the area. In subsequent years, intensive pumping had resulted in a serious lowering of the groundwater table underlying the District. This had necessitated drilling deeper wells with large increases in costs for installation and operation. At present, the District's only source of irrigation water is their surface supply from the CVP.

McFarland is located entirely within the District's service area boundary. The District does not, however, make any direct deliveries to cities and is therefore not an urban water provider. The City, however, does rely on the local groundwater supply, which is naturally recharged. The District provides a small amount of recharge to the groundwater reservoir supply through on-farm, in-lieu recharge efforts, and recharge efforts through District reservoirs. A portion of this recharge would accrue to the benefit of the urbanized areas. The District does not own any groundwater production facilities. Landowners in the District continue to own and operate groundwater production facilities aside from the District.

[3] Page 4-3-8 of the *Kern County General Plan Update Draft Recirculated Program EIR*, dated January 2004.

[4] Southern San Joaquin Municipal Utility District, *2010 Water Management Plan*, revised May 14, 2012.

Based on correspondence with the City of McFarland, the current rate of local groundwater extraction is approximately 1,825 acre-feet per year.[5]

Groundwater Quality

Based on the WMP, water quality monitoring programs for groundwater are conducted by the City of McFarland based on criteria established by the State Department of Health Services.[6] The existing groundwater quality has dibromochloropropane (DBCP), ethylene bromide (EDB), 1,2,3-trichloropropane (TCP), and nitrate in the shallow groundwater.[7] City supply wells are completed in the deeper aquifer for this reason, but can then sometimes encounter arsenic. The two most recent City water wells were able to be constructed without requiring treatment and have water quality that meet all Drinking Water Standards. One City well currently has Arsenic exceeding the maximum contaminant level and is being equipped with a well head arsenic treatment system.

POINT SOURCE POLLUTANTS

Historically, point-source pollutants have consisted of industrial operations with discrete discharges to receiving waters. Over the past several decades, many industrial operations have been identified as potential sources of pollutant discharges. For this reason, many types of industrial operations require coverage under the State of California's General Industrial Permit. This permit regulates the operation of industrial facilities and monitors and reports mechanisms to ensure compliance with water quality objectives. State regulations require industrial operations to comply with California's General Industrial Permit, which significantly lessens impacts on the receiving waters' water quality. However, industrial operations that are not covered under the General Industrial Permit's jurisdiction may still have the potential to affect the water quality of receiving waters. These industrial operations would be considered non-point-source pollutants.

NON-POINT SOURCE POLLUTANTS

Effects of urbanization most often result in an increase in pollutant export from the urban area. An important consideration in evaluating storm water quality within a city, is to evaluate whether it impairs the beneficial use to the receiving waters. Non-point source pollutants have been characterized by the following major parameters to assist in determining and using the pertinent data. Receiving waters can assimilate a limited quantity of various constituent elements; however, there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact. The following background information on these standard water quality parameters provides an understanding of typical urbanization impacts.

Sediment

Sediment is made up of tiny soil particles that are washed or blown into surface waters. It is the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy or turbid. The fine sediment particles also act as a vehicle to transport other pollutants including nutrients, trace metals, and hydrocarbons. Construction sites are the largest source of sediment for urban areas under development.

[5] Mario Gonzales, Public Works Director, City of McFarland, October 23, 2015.
[6] Southern San Joaquin Municipal Utility District, *2010 Water Management Plan*, revised May 14, 2012.
[7] Mario Gonzales, Public Works Director, City of McFarland, October 23, 2015.

Nutrients

Nutrients are a major concern for surface water quality. Phosphorous and nitrogen are of special concern because they can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limiting nutrient that controls the growth of algae in lakes. The orthophosphorous form of phosphorus is readily available for plant growth. The ammonium form of nitrogen can also have severe effects on surface water quality. The ammonium is converted to nitrate and nitrite forms of nitrogen in a process called nitrification. This process consumes large amounts of oxygen, which can impair the dissolved oxygen levels in water. The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied to lawns or other areas in excess of plant needs, nitrates can leach below the root zone, eventually reaching ground water. Orthophosphate from auto emissions also contributes phosphorus in areas with heavy automobile traffic. As a general rule of thumb, nutrient export is greatest from development sites with the most impervious areas. Other problems resulting from excess nutrients are 1) surface algal scums; 2) water discolorations; 3) odors; 4) toxic releases; and, 5) overgrowth of plants. Common measures for nutrients are total nitrogen, organic nitrogen, total Kjeldahl nitrogen (TKN), nitrate, ammonia, total phosphate, and total organic carbon (TOC).

Trace Metals

Trace metals are primarily a concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. The most common trace metals found in urban runoff are lead, zinc, and copper. Fallout from automobile emissions is also a major source of lead in urban areas. A large fraction of the trace metals in urban runoff are attached to sediment and this effectively reduces the level, which is immediately available for biological uptake and subsequent bioaccumulation. Metals associated with the sediment settle out rapidly and accumulate in the soils. Also, urban runoff events typically occur over a shorter duration, which reduces the amount of exposure, which could be toxic to the aquatic environment. The toxicity of trace metals in runoff varies with the hardness of the receiving water. As total hardness of the water increases, the threshold concentration levels for adverse effects increases.

Oxygen-Demanding Substances

Aquatic life is dependent on the DO in the water and when organic matter is consumed by microorganisms then DO is consumed in the process. A rainfall event can deposit large quantities of oxygen demanding substance in lakes and streams. The biochemical oxygen demand of typical urban runoff is on the same order of magnitude as the effluent from an effective secondary wastewater treatment plant. A problem from low DO results when the rate of oxygen-demanding material exceeds the rate of replenishment. Oxygen demand is estimated by direct measure of DO and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oils and greases, and total organic carbon (TOC).

Bacteria

Bacteria levels in undiluted urban runoff exceed public health standards for water contact recreation almost without exception. Studies have found that total coliform counts exceeded EPA water quality criteria at almost every site and almost every time it rained. The coliform

bacteria that are detected may not be a health risk in them, but are often associated with human pathogens.

Oil and Grease

Oil and grease contain a wide variety of hydrocarbons some of which could be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed to it. The major source of hydrocarbons in urban runoff is through leakage of crankcase oil and other lubricating agents from automobiles. Hydrocarbon levels are highest in the runoff from parking lots, roads, and service stations. Residential land uses generate less hydrocarbons export, although illegal disposal of waste oil into storm waters can be a local problem.

Other Toxic Chemicals

Priority pollutants are generally related to hazardous wastes or toxic chemicals and can be sometimes detected in storm water. Priority pollutant scans have been conducted in previous studies of urban runoff, which evaluated the presence of over 120 toxic chemicals and compounds. The scans rarely revealed toxins that exceeded the current safety criteria. The urban runoff scans were primarily conducted in suburban areas not expected to have many sources of toxic pollutants (with the possible exception of illegally disposed or applied household hazardous wastes). Measures of priority pollutants in storm water include 1) phthalate (plasticizer compound); 2) phenols and creosols (wood preservatives); 3) pesticides and herbicides; 4) oils and greases; and, 5) metals.

5.13.2 REGULATORY SETTING

FEDERAL

Clean Water Act

The Clean Water Act (CWA) is a Federal law intended to protect surface waters of the United States (U.S.), which include lakes, rivers, coastal wetlands, and “waters of the U.S.” The CWA regulates all discharges to waters, which are considered illegal unless authorized by an appropriate permit. Discharge of dredged and fill materials, construction-related storm water discharges, and other activities that may result in discharges of pollutants to waters of the U.S. are regulated by the permit. If waters of the U.S. are located on a project site, the project is likely to discharge to them, due to site topography and/or drainage characteristics. Potential discharges to such waters would be considered an impact, and the applicant would be required to obtain a CWA Section 401 Water Quality Certification from the appropriate Regional Water Quality Control Board (RWQCB).

The CWA specifies that discharges to waters are illegal, unless authorized by an appropriate permit. The permits regulate the discharge of dredged and fill materials, construction-related storm water discharges, and activities that may result in discharges of pollutants to “waters of the U.S.”. Section 404 of the CWA establishes a permit program for the discharge of dredge or fill materials into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE). If waters of the U.S. are located on or downstream of a project site, the project may discharge to them, and if impacts on them are anticipated, the project must

obtain a CWA Section 401 Water Quality Certification from the appropriate RWQCB. Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the U.S. This permitting program is administered by the RWQCBs. In addition, Section 303 and 304 of the CWA provide for water quality standards, criteria, and guidelines.

National Pollutant Discharge Elimination System (NPDES)

The NPDES program is administered by the U.S. Environmental Protection Agency (EPA), which provides oversight in California to the RWQCBs. The CWA established the NPDES permit system to regulate discharges to surface waters of the U.S. from municipal and industrial sources. The NPDES permit is required to identify limits on allowable concentrations and mass emissions of pollutants contained in discharges. General requirements regarding NPDES permits are given in Sections 401 and 402 of the CWA. Section 307 identifies certain criteria that the EPA must consider in establishing effluent limits for priority pollutants.

In 1987, the CWA was amended to require NPDES permits for non-point sources (i.e., stormwater) pollutants in discharges. The NPDES regulations are intended to improve stormwater quality discharged to receiving waters to the “maximum extent practicable” (MEP) through the implementation of structural and non-structural Best Management Practices (BMPs). BMPs may range from regulatory measures (local design requirements for drainage facilities); public policy measures (labeling of storm drain inlets to notify public of potential impacts on receiving waters caused by dumping); public education (educational campaigns or posted signage); and/or, structural measures (installation of grass swales or detention ponds).

The two basic types of NPDES permits issued are individual and general permits. An individual permit is a permit specifically tailored to an individual facility. Once a facility submits the appropriate application(s), the permitting authority develops a permit for that particular facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). The authority issues the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply prior to the expiration date.

A general permit covers multiple facilities within a specific category. General permits may offer a cost-effective option for permitting agencies because of the large number of facilities that can be covered under a single permit. General permits may be written to cover categories of point sources having common elements, such as: 1) storm water point sources; 2) facilities that involve the same or substantially similar types of operations; 3) facilities that discharge the same types of wastes or engage in the same types of sludge use or disposal practices; 4) facilities that require the same effluent limits, operating conditions, or standards for sewage sludge use or disposal; and 5) facilities that require the same or similar monitoring.

General permits, however, may only be issued to dischargers within a specific geographical area such as city, county, or state political boundaries; designated planning areas; sewer districts or sewer authorities; state highway systems; standard metropolitan statistical areas; or urbanized areas. By issuing general permits, the permitting authority allocates resources in a more efficient manner to provide timelier permit coverage. For example, a large number of facilities that have certain elements in common may be covered under a general permit without expending the time and money necessary to issue an individual permit to each of these facilities. In addition, using a general permit ensures consistency of permit conditions for similar facilities.

Federal Emergency Management Agency (FEMA)

On March 1, 2003, the Federal Emergency Management Agency (FEMA) became part of the U.S. Department of Homeland Security (DHS). On October 4, 2006, President George W. Bush signed into law the Post-Katrina Emergency Reform Act. The act significantly reorganized FEMA, provided it substantial new authority to remedy gaps that became apparent in the response to Hurricane Katrina in August 2005.[8] Based on the *FEMA Strategic Plan 2014-2018* (Strategic Plan), FEMA's mission is to support U.S. citizens and first responders to ensure that our Nation builds, sustains, and improves our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. For 2014 to 2018, FEMA focus' on five strategic priorities, institutionalizing key improvements while building Agency capacity and strengthening national capabilities for disaster preparedness. The five priorities outlined below, along with their associated outcomes, spur cross-Agency collaboration, guide allocation of resources, and inform how all FEMA employees approach their work.

- Be survivor-centric in mission and program delivery;
- Become an expeditionary organization;
- Posture and build capability for catastrophic disasters;
- Enable disaster risk reduction nationally; and
- Strengthen FEMA's organizational foundation.

These efforts further integrate two strategic imperatives into FEMA's programs and operations: a whole community approach to emergency management and a culture that fosters innovation and learning.

Flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties. The term "100-year flood" is defined by FEMA, as the flood elevation that has a one percent chance of being equaled or exceeded each year. A "500-year flood" is one which has a 0.2 percent chance of occurring each year. A 500-year flood event would be slightly deeper and cover a greater area than a 100-year flood event.

Flood zones are geographic areas that FEMA defines, based on studies of flood risk. The zone boundaries are shown on flood hazard maps, also called Flood Insurance Rate Maps (FIRM). High Risk Zones or Special Flood Hazard Areas (Zone A) are high-risk flood areas where special flood, mudflow, or flood-related erosion hazards exist and flood insurance is mandatory. Low-to-Moderate Risk Zones or Non-Special Flood Hazard Areas (Zones B, C, X) are areas that are not in any immediate danger from flooding caused by overflowing rivers or hard rains. Insurance purchase is not required in these zones.

FEMA is responsible for administering the National Flood Insurance Program (NFIP), which enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all Zones A, which are communities subject to a 100-year flood event. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the Nation's floodplains on

[8] Federal Emergency Management Agency, official website, http://www.fema.gov/, accessed September 10, 2015.

Flood Insurance Rate Maps (FIRM). FIRMs include statistical information such as data for river flow, storm tides, hydrologic/hydraulic analyses and rainfall and topographic surveys. FEMA uses the best available technical data to create the flood hazard maps that outline each community's flood risk areas. FEMA is also working with Federal, State, tribal and local partners across the nation to identify flood risk and help reduce that risk through the Risk MAP program.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act acts in cooperation with the CWA to establish the State Water Resources Control Board (SWRCB). The SWRCB is divided into nine regions, each overseen by a RWQCB. The SWRCB, and thus each RWQCB, is responsible for protecting California's surface waters and groundwater supplies.

The Porter-Cologne Water Quality Control Act develops Basin Plans that designate the beneficial uses of California's rivers and groundwater basins. The Basin Plans also establish narrative and numerical water quality objectives for those waters. Basin Plans are updated every three years and provide the basis of determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The Porter-Cologne Water Quality Control Act is also responsible for implementing CWA Sections 401-402 and 303(d) to SWRCB and RWQCBs.

State Water Resources Control Board and Regional Water Quality Control Board

The SWRCB administers water rights, water pollution control, and water quality functions throughout the State, while the RWQCB conduct planning, permitting and enforcement activities.

While the EPA allows two permitting options to meet NPDES requirements (individual permits and general permits), the SWRCB has elected to adopt one statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ) for California that applies to all construction-related storm water discharges, except for those on tribal lands in the Lake Tahoe Hydrologic Unit and those performed by the Department of Transportation (Caltrans).

The City of McFarland is located within the jurisdiction of the Central Valley RWQCB (Region 5F).

State Regional Water Quality Control Board Stormwater General Construction Permit

In 1999, the SWRCB adopted Order No. 99-08-DWQ, NPDES General Permit No. CAS000002, Waste Discharge Requirements (WDR) for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). This permit was subsequently amended to include smaller construction sites. The General Construction Permit requires that construction sites with 1.0 acre or greater of soil disturbance or less than 1.0 acre, but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent (NOI) for coverage, developing a

Stormwater Pollution Prevention Plan (SWPPP), and implementing Best Management Practices (BMPs) to address construction site pollutants.

REGIONAL

Water Quality Control Plan

The City and the SOI are located within the San Joaquin River Basin and the Central Valley RWQCB (Region 5F), which is governed by the SWRCB.

2010 Water Management Plan

The District prepared the *2010 Water Management Plan* (WMP), dated May 14, 2012, in order to satisfy the RWQCB's NPDES general permit requirements. The WMP identifies the District's types of activities, nature of discharges, and receiving water quality. The WMP has a regulatory shelf-life not to exceed five years, at which time the District would reapply for the general permit prior to the expiration date and update the WMP.

Kern County Environmental Health Services Department

The Kern County Environmental Health Services Department's (KCEHSD's) Water Program ensures the public receives water that is safe to drink and the quantity supplied is adequate to meet the community's needs. Staff evaluate permits to construct, reconstruct, and destroy water wells and evaluate the construction and water quality of the constructed well. A cross connection program ensures that all backflow prevention assemblies are tested on a routine basis to maintain the safety and integrity of the water supply. As mandated by the California Health and Safety Code, public pools and spas are also inspected regularly to ensure the public of a safe recreational environment. The Small Water System Program is involved with the permitting, inspection, and monitoring of small public water systems and the evaluation of the construction and water quality of existing water wells (Water Supply Certificate).

CITY OF MCFARLAND

McFarland Public Works Department

The City of McFarland owns, operates, and maintains the domestic water system within the City of McFarland. The City water system presently consists of four water wells and one storage tank equipped with booster pumps.[9] Monthly service fees are established to provide the City with necessary funding to cover current operational expenditures, the replacement of existing equipment, and required additions to capacity. The Water Division provides the following:

- Domestic and firefighting water service to the McFarland community;
- Continuous monitoring of water for pollutants, contaminants, and bacteria in conformance with health and safety standards; and
- Monitoring and implementation of water-related laws and codes.

[9] City of McFarland, official website, http://ca-mcfarland.civicplus.com/296/Water, accessed September 10, 2015.

The City Water Division also performs water quality testing and monitoring in conformance with establishing health and safety standards.

McFarland Master Plan of Drainage

The City is currently in the process of adopting its first Master Plan of Drainage.[10] The draft McFarland Master Plan of Drainage (MPD) utilized the City's General Plan Land Use Map (dated 2013) as a baseline for analysis. The MPD analyzed the regional and local sources of flooding within the City. The MPD divided the City into two drainage areas, East and West, which consisted of 11 total subareas. These subareas correspond to the Areas A through K listed in Table 5.13-2 (excluding the agricultural Areas L and M).

The hydrologic and hydraulic conditions of each subarea were analyzed including the nine existing sump basins located throughout the City. This analysis focused primarily on the local runoff generated within the City limits. Limited data regarding the regional runoff from the mountains to the east and Poso Creek was available, as this area is located outside of the City. Improvements to existing local storm drain infrastructure, proposed storm drain facilities, alternatives to protect the City from regional flooding, cost estimates, and an implementation program were all included in the draft MPD.

McFarland Safety Element

The City of McFarland recently updated its General Plan Safety Element. The purpose of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Safety Element establishes preventative and responsive policies and programs to mitigate the potential impacts associated with hazards that may affect the City of McFarland. This Element addresses geologic and seismic hazards, flood hazards, fire hazards, hazardous materials, and emergency preparedness and response planning.

McFarland Municipal Code

McFarland Municipal Code Chapter 15.12, *Floodplain Management*, promotes the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

A. Protect human life and health;

B. Minimize expenditure of public money for costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. Minimize prolonged business interruptions;

[10] Michael Baker International, *Hydrology and Water Quality Technical Appendix*, dated October 2015; refer to Appendix H.

E. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;

G. Ensure that potential buyers are notified that property is in an area of special flood hazard; and

H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

In order to accomplish its purpose, this chapter includes methods and provisions to:

A. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

C. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

D. Control filling, grading, dredging, and other development which may increase flood damage; and

E. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Section 15.12.130 states that a development permit must be obtained before any construction or other development begins within any area of special flood hazard established in Section 15.12.070. An application for a development permit is required and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, and drainage facilities; and the location of the foregoing.

Chapter 13.04 – Water Wells and Water Supply Systems. It is the purpose of this chapter to provide for the design, construction, reconstruction, abandonment, and destruction of:

1. Wells defined herein as air conditioning, domestic, agricultural, cathodic protection, industrial, hazardous material monitoring, monitoring and observation, and grounding;
2. Geophysical test holes; and
3. Test wells.

In such a manner that the ground water of McFarland would not be degraded, contaminated or polluted, and that water obtained for beneficial uses would not jeopardize the health, safety, or welfare of the people of the City.

Per Section 13.04.120, except as otherwise provided, it is unlawful for any person or contractor acting on his behalf to construct, reconstruct, deepen, or destroy any well, described in Section 13.04.116, or cause any of these acts to be done without first having filed a valid application for a permit with the Kern County Environmental Health Services Department and having received approval to begin work.

Every permit shall be deemed to be conditioned upon compliance with the requirements of Article III of this chapter, except that permits issued to construct, reconstruct, deepen, or destroy cathodic protection wells and hazardous material monitoring wells shall be deemed to be conditioned on compliance with the respective reference documents specified in Sections 13.04.220 and 13.04.230.

The health officer may prescribe additional permit conditions if the health officer determines that they are required to prevent degradation of underground waters as provided for in Section 13.04.010.

Further, any new wells would be subject to Article III, *Well Standards*, regarding well locations, well casing material and installation, construction, protection, monitoring, sealing conditions, development or redevelopment, surface construction features, water quality testing, conversion, and/or destruction.

Chapter 15.30 – Landscape Water Conservation. The City's Landscape Water Conservation Ordinance applies to all new rehabilitated landscaping for public agency projects and private development projects that require a permit; and developer-installed landscaping in single-family and multiple-family projects. The Landscape Water Conservation Ordinance requires the project applicant to submit a landscape documentation package to the City, detailing the maximum applied water allowance, estimated applied water use, estimated total water use, landscape design plan, irrigation design plan, irrigation schedules, maintenance schedules, grading plan design, soils, and proof of certification.

5.13.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Violate any water quality standards or waste discharge requirements; refer to Impact Statement HWQ-1.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); refer to Impact Statement HWQ-2.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site; refer to Impact Statement HWQ-4.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; refer to Impact Statement HWQ-4.

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; refer to Impact Statement HWQ-3.

- Otherwise substantially degrade water quality; refer to Impact Statement HWQ-1.

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; refer to Impact Statement HWQ-5.

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows; refer to Impact Statement HWQ-5.

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Inundation by seiche, tsunami, or mudflow; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these significance thresholds and criteria, the proposed project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact".

5.13.4 IMPACTS AND MITIGATION MEASURES

WATER QUALITY

HWQ-1 IMPLEMENTATION OF THE PROPOSED PROJECT COULD VIOLATE WATER QUALITY STANDARDS AND WASTE DISCHARGE REQUIREMENTS.

Impact Analysis: The proposed project would designate land uses within the project area as residential (Low and Medium Density), Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses. Specific future development is unknown at this time. However, potential future development of the project area consistent with the proposed land use designations, would result in increased impervious surfaces and may contribute to water quality degradation in the City. Table 5.13-3, *Increased Impervious Areas After Project Development*, identifies the proposed land uses and associated impervious values assuming development of the project area occurs in accordance with the proposed land use designations.

Table 5.13-3
Increased Impervious Areas After Project Development

Hydrology Manual	General Plan Land Use Designation	Impervious Area
Commercial, Downtown Business, or Industrial	Professional Office	0.90
Commercial, Downtown Business, or Industrial	Mixed-Use	0.90
Commercial, Downtown Business, or Industrial	Light Industrial	0.90
Commercial, Downtown Business, or Industrial	Heavy Industrial	0.90
Commercial, Downtown Business, or Industrial	Public and Institutional	0.90

Source: Michael Baker International, *Hydrology and Water Quality Technical Appendix*, dated October 2015; refer to Appendix H.

As the proposed project would designate land uses within the project area and specific development is unknown at this time, for the purposes of this analysis, it is assumed that the proposed watershed would be the same as the existing condition. The drainage pattern for the areas flows generally to the north. Storm flow conveyance in the project area would generally occur within the existing and future streets. Table 5.13-4, *Change in Impervious Area Characteristics*, depicts the drainage areas and change in impervious values of the proposed conditions, compared to the existing condition.

Table 5.13-4
Change in Impervious Area Characteristics

Areas[1]	Area (acres)	Existing Impervious[2] Condition (C)	Proposed Impervious[2] Condition (C)	Change In Impervious Area (C)	Change In Impervious Area (%)
A	**56.98**	**0.4655**	**0.6944**	**0.2289**	**49.17**
B	**68.58**	**0.4000**	**0.5880**	**0.1850**	**47.00**
C	63.87	0.6349	0.6349	0	0
D	**95.76**	**0.4000**	**0.4850**	**0.0850**	**21.25**
E	120.20	0.4607	0.4607	0	0
F	287.48	0.5485	0.5485	0	0
G	73.14	0.4000	0.4000	0	0
H	19.15	0.9000	0.9000	0	0
I	234.38	0.0035	0.0035	0	0
J	248.87	0.5792	0.5792	0	0
K	40.65	0.5628	0.5628	0	0
L	**785.97**	**0.0000**	**0.6224**	**0.6224**	**62.24**
M	**1,197.92**	**0.0000**	**0.8351**	**0.8351**	**83.51**

Notes: **Bold** denotes substantial change impervious area.
(C) = coefficient.
1. Refer to Exhibit 5.13-3, *Existing Area Characteristics*, for a mapping of each area identified.
2. Percent impervious was based on an area average. Areas L and M are currently designated as Agricultural lands.

Source: Michael Baker International, *Hydrology and Water Quality Technical Appendix*, dated October 2015; refer to Appendix H.

As indicated in Table 5.13-4, future development consistent with the proposed land uses and allowed densities/intensities would result in an increase in imperviousness in Areas A, B, D, L, and M, potentially violating water quality standards.

The general water quality of the project site is expected to deteriorate as a result of the proposed project due to the increase in impervious area. Runoff from disturbed areas would likely contain silt and debris, resulting in a long-term increase in the sediment load downstream. There is also the possibility for chemical releases at future construction sites. Substances such as oils, fuels, paints, and solvents may be transported to nearby drainages, watersheds, and groundwater in storm water runoff, wash water, and dust control water. The significance of these water quality impacts would vary depending upon the level of construction activity, weather conditions, soil conditions, and increased sedimentation within the area.

Further, many point-source pollutants consist of industrial operations with discrete discharges to receiving waters, these types of industrial operations require coverage under the SWRCB's General Industrial Permit. This permit regulates the operation of industrial facilities and monitors and reports mechanisms to ensure compliance with water quality objectives. State regulations require industrial operations to comply with General Industrial Permit, which significantly lessens impacts on the receiving waters' water quality. However, industrial operations that are not covered under the General Industrial Permit's jurisdiction may still have the potential to affect the water quality of receiving waters. These industrial operations would be considered non-point-source pollutants.

Maintaining and improving water quality is essential to protect public health, wildlife, and the local watershed. Water conservation and pollution prevention can be dramatically improved through proactive efforts of residents and through City policies. New development projects would be required to meet Federal, State, and local water quality standards and implement mitigation (if necessary) to reduce impacts to a less than significant level.

Mitigation Measures HWQ-1 and HWQ-2 would ensure that recommended Best Management Practices (BMP's) for the proposed project are implemented on a project-by-project basis, as applicable. Future development would be required to:

- Obtain coverage under the NPDES General Permit from the SWRCB for a site development of one acre or greater.
- Applicants would be required to prepare and submit a NOI to comply with the Construction General Permit, if applicable, to the SWRCB.
- All dischargers would be required to prepare, retain at the construction site, and implement a Storm Water Pollution Prevention Plan (SWPPP) per requirements of the Construction General Permit.
- A Notice of Termination (NOI) would be required to be filed with the SWRCB once construction is complete on a project-by-project basis.
- For all non-residential projects developed at the project site, clarifiers would be required to treat the first flush.

Post-construction source control BMPs for stormwater may include control of air pollutants, enforcement of anti-litter ordinances, educational programs (to limit fertilizer and pesticide use by home gardeners and dumping of waste motor oil in storm drains), street and storm drain maintenance practices, spill prevention and cleanup, and BMPs for erosion control. Examples of treatment control BMPs for stormwater include infiltration, wet ponds, extended detention basins, biofilters (such as grassy swales), media filtration (e.g., a settling basin followed by a sand filter), oil/water separators, and constructed wetlands. Because of differences in efficiency among BMPs, combinations of different methods often provide the best treatment.

Compliance with Mitigation Measures HWQ-1 and HWQ-2 would reduce water quality and waste discharge impacts to a less than significant level.

Groundwater Quality

Based on the WMP, the existing groundwater quality has dibromochloropropane (DBCP), ethylene bromide (EDB), 1,2,3-trichloropropane (TCP), and nitrate in the shallow groundwater.[11] City supply wells are completed in the deeper aquifer for this reason, but can then sometimes encounter arsenic. The two most recent City water wells were able to be constructed without requiring treatment and have water quality that meet all Drinking Water Standards. One City well currently has Arsenic exceeding the maximum contaminant level and is being equipped with a well head arsenic treatment system.

Development of the proposed project could result in increased contributors to pollutants in groundwater. However, the City would be required to continue groundwater monitoring and treatment, if necessary, to meet all Drinking Water Standards. Further, all operators in the project area would be required to follow all federal, state, and local laws and regulations pertaining to water quality and hazardous materials.

All future development associated with the proposed project would be required to comply with the City's Municipal Code Chapter 13.04 that requires the design, construction, reconstruction, abandonment, and destruction of wells, geophysical test holes, and test wells in such a manner that the ground water would not be degraded, contaminated or polluted, and that water obtained for beneficial uses would not jeopardize the health, safety, or welfare of the people of the City.

Per Municipal Code Section 13.04.120, it is unlawful for any person or contractor acting on his behalf to construct, reconstruct, deepen, or destroy any well or cause any of these acts to be done without first having filed a valid application for a permit with the KCEHSD and having received approval to begin work. Further, the KCEHSD health officer may prescribe additional permit conditions if the health officer determines that they are required to prevent degradation of underground waters as provided for in Municipal Code Section 13.04.010.

All new wells would be subject to Article III, *Well Standards*, regarding well locations, well casing material and installation, construction, protection, monitoring, sealing conditions, development or redevelopment, surface construction features, water quality testing, conversion, and/or destruction. With implementation of the Municipal Code standards and regulations as well as those requirements imposed by the KCEHSD, impacts pertaining to the degradation of groundwater quality would be reduced to less than significant levels.

[11] Mario Gonzales, Public Works Director, City of McFarland, October 23, 2015.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 3: Provide for environmentally sound community development in McFarland.

Project Mitigation Measures:

HWQ-1 Prior to issuance of any Grading or Building Permit, and as part of the future development's compliance with the NPDES requirements, a Notice of Intent shall be prepared and submitted to the Central Valley RWQCB providing notification and intent to comply with the State of California General Construction Permit. Also, a Stormwater Pollution Prevention Plan (SWPPP) shall be reviewed and approved by the Director of Public Works and the City Engineer for water quality construction activities on-site. A copy of the SWPPP shall be available and implemented at the construction site at all times. The SWPPP shall outline the source control and/or treatment control Best Management Practices (BMPs) to avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable." All recommendations in the SWPPP shall be implemented during area preparation, grading, and construction. The applicant(s) shall comply with each of the recommendations detailed in the SWPPP, and other such measure(s) as the City deems necessary to mitigate potential stormwater runoff impacts.

HWQ-2 Prior to issuance of any Grading Permit, future development projects shall prepare, to the satisfaction of the Director of Public Works and the City Engineer, a Water Quality Management Plan or Stormwater Mitigation Plan, which includes Best Management Practices (BMPs). All recommendations in the Plan shall be implemented during post construction/operation phase. The applicant(s) shall comply with each of the recommendations detailed in the Plan, and other such measure(s) as the City deems necessary to mitigate potential water quality impacts.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

GROUNDWATER DEPLETION

HWQ-2 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD DEPLETE GROUNDWATER SUPPLIES.

Impact Analysis: McFarland is located entirely within the District's service area boundary. The District does not, however, make any direct deliveries to cities and is therefore not an urban water provider. The City, however, does rely on the local groundwater supply, which is naturally recharged. The District provides a small amount of recharge to the groundwater reservoir supply through on-farm, in-lieu recharge efforts, and recharge efforts through District reservoirs. A portion of this recharge would accrue to the benefit of the urbanized areas. The District does not own any groundwater production facilities. Landowners in the District continue to own and operate groundwater production facilities aside from the District. Based on correspondence with

the City of McFarland, the current rate of local groundwater extraction is approximately 1,825 acre-feet per year.[12]

The proposed project would designate land uses within the project area as residential (Low and Medium Density), Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses in anticipation of future annexation of lands within the SOI. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. As part of any application for annexation, a plan for providing services would be required. The plan would address the type, level, range, timing, and financing of services to be extended, including requirements for infrastructure and other public facilities.

Future development consistent with the proposed land use densities/intensities would increase the City's population, which would result in an ultimate increase in the demand for water supplies. According to the City, there is sufficient groundwater available to serve additional demand associated with the potential new development.[13] Additionally, provisions would be required by any new development to secure a water supply for purposes of complying with applicable groundwater sustainability regulations.

As discussed in Impact Statement HWQ-1, all future development associated with the proposed project would be required to comply with the City's Municipal Code Chapter 13.04 that requires the design, construction, reconstruction, abandonment, and destruction of wells, geophysical test holes, and test wells in such a manner that the ground water would not be degraded, contaminated or polluted, and that water obtained for beneficial uses would not jeopardize the health, safety, or welfare of the people of the City. Further the construction, reconstruction, deepening, or destroying of any well would be required to have a valid application for a permit filed with the KCEHSD prior to beginning work. All new wells would be subject to Article III, *Well Standards*, regarding well locations, well casing material and installation, construction, protection, monitoring, sealing conditions, development or redevelopment, surface construction features, water quality testing, conversion, and/or destruction.

Further, water conservation in southern California became increasingly important in the 1980s and early 1990s, when the entire region suffered a severe drought. Drought conditions in southern California directly affect groundwater recharge and groundwater supplies. All future development within the project site would be subject to the City's standards and regulations pertaining to water conservation. Future development would be subject to Municipal Code Chapter 15.30, the City's Landscape Water Conservation Ordinance. The Landscape Water Conservation Ordinance requires applicant(s) to submit a landscape documentation package to the City, detailing the maximum applied water allowance, estimated applied water use, estimated total water use, landscape design plan, irrigation design plan, irrigation schedules, maintenance schedules, grading plan design, soils, and proof of certification.

Implementation of the City's Municipal Code requirements pertaining to water quality and water conservation measures and compliance with provisions requiring any new development to secure a water supply for purposes of complying with applicable groundwater sustainability regulations would ensure potential impacts associated with the depletion of groundwater supplies would be reduced to a less than significant level. Further, individual developments

[12] Mario Gonzales, Public Works Director, City of McFarland, October 23, 2015.
[13] Ibid.

would be reviewed to ensure that adequate water supplies and infrastructure are available to serve the development proposed at that time. Thus, impacts to groundwater supplies would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

DRAINAGE SYSTEM CAPACITY

HWQ-3 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE OR CONTRIBUTE TO RUNOFF WATER WHICH COULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORM WATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

Impact Analysis: The proposed project would designate land uses within the project area as residential (Low and Medium Density), Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses. Subsequent development associated with implementation of the project may contribute to the runoff, which may exceed the capacity of the existing drainage system.

A storm drain or stormwater conveyance system are private and public drainage facilities, other than sanitary sewers, through which surface water runoff (typically in urban areas) is transported to another location where the water is discharged to a natural drainage or water course (most likely) or to a treatment facility. The main purpose of the storm drain system is to prevent flooding by transporting water away from developed areas. Storm drain systems are most common within the more urbanized areas of the City and are likely to have a range of storm drain facilities. In more rural areas of the City, developed land does not support or require storm drain facilities.

Over recent decades, rapid growth and urbanization have placed increased pressure on storm drain capacity. In general, increased urbanization increases the amount of impervious (paved) surfaces, thus reducing the amount of water that would normally infiltrate into the soil. Rainfall, irrigation runoff, and nuisance flows accumulate on impervious surfaces and flow downstream via the storm drain system to surface waters. The storm drain system is not connected with the sanitary sewer system; therefore, urban runoff is not filtered to remove trash, cleaned, or otherwise treated before it is discharged to surface waters. As a result storm drains have become increasingly important component in managing water quality impacts in addition to reducing flooding.

The location, topography, and land uses in and around the City pose unique drainage situations for the way local runoff is contained. As the City has been developed on predominantly agricultural lands, sump basins are the primary facilities used to retain the local storm water flows. Local streets and storm drain facilities direct flow to nine sump basins located throughout the City; refer to Exhibit 5.13-2. The basins have no natural outlet to larger bodies of water,

which restricts the removal of runoff to percolation or evaporation. In general, storm water from the City drains through a curb and gutter system toward drainage sumps, as identified on Exhibit 5.13-2.

Based on Table 5.13-4, there is an overall average increase of 20.24 percent in impervious area due to the proposed project. According to the Hydrology Report, an increase of 1 percent or more in imperviousness would be considered a significant impact. However, any new development projects associated with implementation of the proposed project would be required to ensure project-specific and citywide drainage systems have adequate capacity to accommodate new development. The City has recognized the need to monitor and improve the storm drain system in order to ensure it is adequately accommodating future development. Implementation of the City's Master Plan of Drainage would ensure that project-related storm water mitigation techniques are employed and monitored for future development of the project area within the City limits.

As stated, the project proposes land use designations within the City's SOI in anticipation of future annexation. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. As part of any application for annexation, a plan for providing services would be required. The plan would address the type, level, range, timing, and financing of services to be extended, including requirements for infrastructure and other public facilities. Any future development within the City would be required to collect and retain stormwater within the development in accordance with the City's Improvement Standards and pay drainage fees prescribed by the City. Furthermore, compliance with the City's Municipal Code and Mitigation Measures HWQ-1 and HWQ-2 would ensure that substantial additional sources of polluted runoff would not occur and that impacts would be reduced to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies:

Policy SAF-3.1: Continue to work with the appropriate local, State, and Federal agencies to maintain the most current flood hazard and floodplain information and use it as a basis for project review and to guide development.

Policy SAF-3.2: Actively promote and participate in a regional drainage analysis and implementation of regional and local flood control measures to reduce regional flooding conditions within the City.

Policy SAF-3.3: Continue to participate in the National Flood Insurance Program (NFIP) and ensure that City regulations are in full compliance with the standards adopted by the Federal Emergency Management Agency (FEMA).

Policy SAF-3.4: Implement recommendations contained in the McFarland Storm Drain Master Plan that are within the City's jurisdiction.

Policy SAF-3.5: Minimize flood risks associated with existing development.

Policy SAF-3.6: Require evaluation of potential flood hazards prior to approval of development projects.

Policy SAF-3.7: Identify construction or other methods to minimize damage if new development is located in flood hazard zones.

Policy SAF-3.8: Prohibit new development within the 100-year flood zone unless it can be shown that the development will not:

- Create danger to life and property due to increased flood heights or velocities caused by excavation, fill, roads and intended use.
- Create difficult emergency vehicle access in times of flood.
- Create a safety hazard due to the unexpected heights velocity, duration, rate of rise and sediment transport of the flood waters at the site.
- Create excessive costs in providing governmental services during and after flood conditions, including maintenance and repair of public facilities.
- Interfere with the existing waterflow capacity of the floodway.
- Substantially increase erosion and/or sedimentation.
- Contribute to the deterioration of a watercourse or the quality of water in any body of water.
- Require storage of material, or any substantial grading or placement of fill.
- Change the water storage/volume capacity of the flood basin.

Policy SAF-3.9: Require that essential public facilities be located and designed to mitigate potential flood risk to ensure long term operation.

Policy SAF-3.10: Promote low impact development techniques and design features such as pervious paving, on-site groundwater recharge, rainwater harvesting, minimization of building footprints, and bioretention to improve defensive measures against storm events and stormwater pollution.

Policy SAF-3.11: Educate property owners and residents located in flood hazard areas about opportunities to mitigate flood hazards and damage, implementation of flood preparation activities, and evacuation and recovery efforts associated with a flooding event.

Policy SAF-3.12: Continue to support efforts of the Bureau of Reclamation to ensure that proper maintenance and repairs of the Friant-Kern Canal are accomplished.

Project Mitigation Measures: Refer to Mitigation Measures HWQ-1 and HWQ-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

DRAINAGE PATTERNS

HWQ-4 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN ALTERATION OF DRAINAGE PATTERNS OF THE SITE OR AREA, INCLUDING ALTERATION OF A STREAM OR RIVER, RESULTING IN SUBSTANTIAL EROSION, FLOODING, OR SIGNIFICANT RISK OF LOSS.

Impact Analysis: Although the proposed project does not propose site-specific development, it does anticipate the future annexation and development of the area consistent with the proposed land use designations. Subsequent development would alter the existing drainage patterns of the area, as increased development and associated infrastructure would occur. All applicable standards would be applied to future development projects to ensure that they are not constructed in a way that would alter a stream or river, or result in substantial erosion or flooding. As noted, new development projects associated with implementation of the proposed project would be required to ensure project-specific and citywide drainage systems have adequate capacity to accommodate new development. Any future development within the City would be required to collect and retain stormwater within the development in accordance with the City's Improvement Standards and pay drainage fees prescribed by the City. Projects would be reviewed to ensure that the development being proposed would not alter drainage patterns resulting in substantial erosion, flooding, or significant loss. Therefore, less than significant impacts would occur in this regard. Also, refer to Impact Statement HWQ-5 pertaining to 100-year flood-related impacts.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

FLOODING

HWQ-5 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN IMPACTS RELATED TO A 100-YEAR FLOOD EVENT.

Impact Analysis: The City of McFarland is subject to the 100-year flood runoff from the east resulting from flow overtopping the Friant-Kern Canal levee as depicted in Exhibit 5.13-1. As there are no storm water basins or channels in the City to intercept the regional overflow from Poso Creek or the mountains to the east, major flood problems exist on the eastern side of the City.

The City is a participant in the NFIP. Communities participating in the NFIP must adopt and enforce minimum floodplain management standards, including identification of flood hazards and flooding risks. The published FIRM for the project area is depicted on Exhibit 5.13-1. The portion of the City to the west of Highway 99 is outside the 100-year flood zone, while most of the eastern portion of the City is located within the 100-year flood zone.

All future development associated with the proposed project would be subject to the City's Municipal Code Chapter 15.12. This Chapter would require provisions for those areas within the flood zone that are designed to:

A. Protect human life and health;

B. Minimize expenditure of public money for costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. Minimize prolonged business interruptions;

E. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;

G. Ensure that potential buyers are notified that property is in an area of special flood hazard; and

H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Other required methods and provisions would include:

A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

D. Controlling filling, grading, dredging, and other development which may increase flood damage; and

E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Section 15.12.130 states that a development permit must be obtained before any construction or other development begins within any area of special flood hazard established in Section 15.12.070. An application for a development permit is required and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, and drainage facilities; and the location of the foregoing.

With implementation of the City's Municipal Code, flood hazards within the City would be reduced to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.13.5 CUMULATIVE IMPACTS

WATER QUALITY

HWQ-6 IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN CUMULATIVE CONSIDERATIONS REGARDING THE VIOLATION OF WATER QUALITY STANDARDS AND WASTE DISCHARGE REQUIREMENTS.

Impact Analysis:

Surface Water Quality

Surface water quality would continue to degrade as cumulative growth occurs in the area. However, all future development would be subject to the required Federal, State, and local water quality standards. Implementation of required BMPs on a project-by-project basis would reduce cumulative impacts to a less than significant level.

Further, future development associated with implementation of the proposed project would not result in significant cumulative contributions to the degradation of surface water quality with implementation of the recommended Mitigation Measures HWQ-1 and HWQ-2. Post-construction source control BMPs for stormwater may include control of air pollutants, enforcement of anti-litter ordinances, educational programs (to limit fertilizer and pesticide use by home gardeners and dumping of waste motor oil in storm drains), street and storm drain maintenance practices, spill prevention and cleanup, and BMPs for erosion control. Examples of treatment control BMPs for stormwater include infiltration, wet ponds, extended detention basins, biofilters (such as grassy swales), media filtration (e.g., a settling basin followed by a sand filter), oil/water separators, and constructed wetlands. Because of differences in efficiency among BMPs, combinations of different methods often provide the best treatment.

Thus, compliance with Mitigation Measures HWQ-1 and HWQ-2 would ensure that the proposed project would not result in a significant cumulative contribution to impacts associated with the degradation of surface water quality.

Ground Water Quality

As the project area receives water supplies from the local ground water basins, ground water quality could be degraded as cumulative growth occurs in the area. All future development would be subject to Federal, State, and local laws and regulations regarding water wells,

including those imposed by the KCEHSD. The City would continue to monitor and treat groundwater, as necessary, to meet all Drinking Water Standards. With implementation of provisions on a project-by-project basis intended to maintain ground water quality objectives for the area, cumulative impacts would be less than significant.

Development of the proposed project would not result in significant cumulative contributions to the degradation of ground water quality with implementation of the City's Municipal Code and those requirements imposed by the KCEHSD. All future development associated with the proposed project would be required to comply with the City's Municipal Code Chapter 13.04 that requires the design, construction, reconstruction, abandonment, and destruction of wells, geophysical test holes, and test wells in such a manner that the ground water would not be degraded, contaminated or polluted, and that water obtained for beneficial uses would not jeopardize the health, safety, or welfare of the people of the City. All new wells would be subject to Article III, *Well Standards*, regarding well locations, well casing material and installation, construction, protection, monitoring, sealing conditions, development or redevelopment, surface construction features, water quality testing, conversion, and/or destruction. With implementation of the Municipal Code standards and regulations as well as those requirements imposed by the KCEHSD, impacts pertaining to the degradation of groundwater quality would be reduced to less than significant levels.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures HWQ-1 and HWQ-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

GROUNDWATER DEPLETION

HWQ-7 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN IN CUMULATIVE CONSIDERATIONS REGARDING THE DEPLETION OF GROUNDWATER SUPPLIES.

Impact Analysis: Cumulative development within the area would continue to draw upon the groundwater in the basin. However, according to the City, there is sufficient groundwater available to serve additional demand associated with the potential new development.[14] Additionally, provisions would be required by any new development to secure a water supply for purposes of complying with applicable groundwater sustainability regulations. Thus, cumulative impacts on groundwater supplies would be less than significant.

Development associated with implementation of the proposed project may contribute to the depletion of groundwater. The proposed project would designate land uses within the project area as residential (Low and Medium Density), Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses in anticipation of future annexation of lands within the SOI. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's

[14] Mario Gonzales, Public Works Director, City of McFarland, October 23, 2015.

corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. As part of any application for annexation, a plan for providing services would be required. The plan would address the type, level, range, timing, and financing of services to be extended, including requirements for infrastructure and other public facilities.

Further, all future development would be subject to the City's Municipal Code Chapter 13.04 as well as the KCEHSD standards and regulations pertaining to water wells. Future development would be subject to Municipal Code Chapter 15.30, the City's Landscape Water Conservation Ordinance, in order to reduce water consumption pertaining to landscaping irrigation practices.

Overall, with implementation of the City's Municipal Code and KCEHSD requirements pertaining to water quality and water conservation measures, the proposed project would not significantly cumulatively contribute to impacts regarding the depletion of groundwater supply.

Mitigation Programs:

General Plan Objectives/Policies: No General Plan Objectives/Policies have been identified.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact.

DRAINAGE SYSTEM CAPACITY

HWQ-8 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD CREATE OR CONTRIBUTE TO RUNOFF WATER WHICH COULD CUMULATIVELY EXCEED THE CAPACITY OF EXISTING OR PLANNED STORM WATER DRAINAGE SYSTEMS FOR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

Impact Analysis: As cumulative development occurs in the area, increased runoff would occur such that increased capacity may be needed for regional drainage facilities. The City has recognized the need to monitor and improve the storm drain system in order to ensure it is adequately accommodating future development.

The City's Master Plan of Drainage would ensure that project-related storm water mitigation techniques are employed and monitored. All future development on a project-by-project basis would be required to meet all agency requirements regarding the existing or planned storm water drainage system as well as all water quality standards. Impacts associated with future development in the City and the region would be addressed at a site-specific level to ensure their cumulative impact would be less than significant. Further, all future development would be required to meet the Central Valley RWQCB's standards and regulations regarding the NPDES General Permit conditions pertaining to water quality. Thus, within implementation of Federal, State, and local standards and regulations pertaining to the storm drainage system and water quality, cumulative development would result in less than significant impacts.

As stated, the project proposes land use designations within the City's SOI in anticipation of future annexation. However, annexation and site-specific development is not currently proposed and any future annexation proposals to extend the City's corporate boundaries would

require review and approval by Kern County LAFCO, which would also be subject to CEQA review. As part of any application for annexation, a plan for providing services would be required. The plan would address the type, level, range, timing, and financing of services to be extended, including requirements for infrastructure and other public facilities. Any future development within the City would be required to collect and retain stormwater within the development in accordance with the City's Improvement Standards and pay drainage fees prescribed by the City. Furthermore, implementation of the required mitigation measures would ensure new development projects are designed to result in less than significant impacts related to the drainage system capacity and water quality. Compliance with the Mitigation Measures HWQ-1 and HWQ-2 would ensure drainage system capacity impacts are not significantly cumulatively considerable.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures HWQ-1 and HWQ-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

DRAINAGE PATTERNS

HWQ-9 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN THE ALTERATION OF DRAINAGE PATTERNS OF THE SITE OR AREA, INCLUDING ALTERATION OF A STREAM OR RIVER, RESULTING IN SUBSTANTIAL CUMULATIVELY CONSIDERABLE EROSION, FLOODING, OR SIGNIFICANT RISK OF LOSS.

Impact Analysis: As future development occurs in the City and region, impacts pertaining to the alteration of drainage patterns in the area could occur. However, these impacts would be addressed at a site-specific level to ensure their cumulative impact would be less than significant. Additional local facilities would be constructed by developers or the City as they become necessary. During the development approval process, developers are "conditioned" to construct necessary storm drain facilities. In addition, projects in close proximity to master drainage facilities would be conditioned to contribute a fair-share cost towards the design and construction of regional drainage facilities in accordance with the Master Plan of Drainage.

The project does not propose altering any drainage patterns. All applicable standards would be applied to future development projects to ensure that they are not constructed in a way that would alter a stream or river, or result in substantial erosion or flooding. Therefore, implementation of the proposed project would not result in cumulatively considerable drainage impacts.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

FLOODING

HWQ-10 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN CUMULATIVE CONSIDERATIONS IMPACTS RELATED TO A 100-YEAR FLOOD EVENT.

Impact Analysis: Future development could increase within the designated 100-year flood zone as development occurs within the City and the region. All future development within the City would be subject to the City's Municipal Code Chapter 15.12. This Chapter would require provisions for those areas within the flood zone that are designed to:

A. Protect human life and health;

B. Minimize expenditure of public money for costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. Minimize prolonged business interruptions;

E. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;

F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;

G. Ensure that potential buyers are notified that property is in an area of special flood hazard; and

H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Other required methods and provisions would include:

A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;

B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

D. Controlling filling, grading, dredging, and other development which may increase flood damage; and

E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Section 15.12.130 would require that all applicant(s) obtain a development permit prior to any construction or other development within a special flood area. On a project-by-project basis, development plans would be required and may include, but not be limited to, plans depicting the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, and drainage facilities; and the location of the foregoing. As plans are approved on a project-by-project basis by the City, impacts associated with future development in identified flood zones would be reduced to less than significant levels.

Development of the proposed project would also be subject to the City's Municipal Code regarding development in flood zones. With approval of plans by the City on a project-by-project basis, the proposed project would not result in a cumulatively considerable impact pertaining to development in an identified flood zone.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.13.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts related to hydrology, drainage, and water quality associated with implementation of the proposed project would be less than significant by adherence to and/or compliance with the General Plan Policies/Objectives, City's Municipal Code, and the recommended mitigation measures. No significant unavoidable hydrology, drainage, and water quality impacts would occur as a result of the proposed project.

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Section 5.14
Hazards and Hazardous Materials

5.14 HAZARDS AND HAZARDOUS MATERIALS

This section describes the means by which hazardous substances are regulated from a Federal, State, and local perspective, and discusses potential adverse impacts to human health and the environment due to exposure of hazardous materials. Where significant impacts are identified, mitigation measures are provided to reduce these impacts to a less than significant level. For this EIR, the term "hazardous material" includes any material that, because of its quantity, concentration, or physical, chemical, or biological characteristics, poses a considerable present or potential hazard to human health or safety, or to the environment. It refers generally to hazardous chemicals, radioactive materials, and biohazards materials. "Hazardous waste," a subset of hazardous material, is material that is to be abandoned, discarded, or recycled and includes chemicals, radioactive, and bio-hazardous waste (including medical waste).

5.14.1 EXISTING SETTING

The existing hazardous materials conditions within the City and Sphere of Influence (SOI) are based on existing (2015) on-the-ground development conditions. On-site topography generally slopes to the northwest, and ranges from approximately 400 feet above mean sea level (msl) in the south easternmost portion, to 360 feet above msl in the north westernmost portion of the planning area. A canal bounds the southeastern portion of the planning area, and trends in a north-south direction. The Union Pacific Railroad (UPRR) tracks parallel State Route 99 (SR-99) to the east in a north-south direction. The planning area encompasses approximately 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's SOI. The existing land uses within the planning area consist of agriculture, residential, office, commercial, light industrial, heavy industrial, recreational, and public and institutional uses. Agricultural uses surround the City limits (and are located within the City's SOI) to the north, east, south, and west.

ON-SITE REGULATORY PROPERTIES

The government sources have been searched by Environmental Data Resources, Inc. (EDR) for sites within the boundaries of the planning area (Database Records Search); refer to Appendix G, *Hazardous Materials Database Records Search*.

The following properties are known to handle, store, and/or maintain hazardous materials within the project area (i.e., the City's SOI, and incorporated area proposed for General Plan Amendment; refer to Exhibit 3-4):

- R & F Disposal, Inc. (640 South Frontage Road);
- Desperado Dairy (31747 Taylor Avenue);
- B & D Morris Farms (31900 Whisler Road); and
- American Tire Tech (southwest corner of SR-99 and Nill Avenue).

Aboveground and Underground Storage Tanks

Based on the Database Records Search, one (1) aboveground storage tank (AST) is reported within the project area:

- Desperado Dairy (31747 Taylor Avenue).

Properties Known to Handle Hazardous Materials (HAZNET)

The HAZNET database extracts data from the copies of hazardous waste manifests received each year by the California Department of Toxic Substances (DTSC). The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Based on the Database Records Search, one (1) property within the project area is listed in the HAZNET database:

- B & D Morris Farms (31900 Whisler Road).

Land Disposal Sites

The Solid Waste Facilities/Landfill Sites (SWF/LF), and Land Disposal Sites (LDS) records typically contain an inventory of solid waste disposal facilities or landfills in a particular state, and waste discharge to land for treatment, storage and disposal in waste management units, respectively. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database. Based on the Database Records Search, one (1) land disposal site is reported within the project area:

- American Tire Tech (southwest corner of SR-99 and Nill Avenue).

Hauling Activities

The HAULERS records provide a list of waste tire haulers. Based on the Database Records Search, one (1) HAULERS site is reported within the project area:

- R & F Disposal, Inc. (640 South Frontage Road).

On-Site Releases

Uses listed as using/storing/transporting hazardous materials have the potential for accidental spills within the project area, such as the aboveground storage tank at Desperado Dairy (31747 Taylor Avenue).

RAILROAD RIGHT-OF-WAY

The UPRR tracks traverse the central portion of the project area in a north-south direction. Active and inactive railroad beds frequently have concentrations of petroleum products and lead elevated above natural background conditions. Petroleum product concentrations and lead concentrations are derived from drippings from rail vehicles and flaked paint, respectively. Wooden railroad ties may contain preservatives (i.e., creosote), some of which may contain hazardous constituents. Track switch locations often have elevated levels of petroleum hydrocarbons. Inorganic and organic herbicides, along with diesel fuel, may have been used for vegetation control. Due to the UPRR alignment in the central portion of the project area, the presence of gasoline, diesel, and/or creosote within the soil surrounding the railroad alignment, and current and historic railroad spurs, is likely.

ASBESTOS-CONTAINING MATERIALS

Asbestos is a strong, incombustible, and corrosion-resistant material that was used in many commercial products, beginning before the 1940s and continuing until the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos-containing materials (ACMs) are building materials containing more than one percent asbestos. Many of the existing structures present within the project area have been built prior to 1978. Therefore, the potential for ACMs to be found within the project area is considered likely.

LEAD-BASED PAINTS

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not result in a material to be hazardous. In fact, if in good condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition, LBPs can create a potential health hazard for building occupants, especially children. Many of the existing structures present within the project area have been built prior to 1978. Therefore, the potential for LBPs to be found within the project area is considered likely.

OFF-SITE REGULATORY PROPERTIES

Public records identified 89 additional listed regulatory sites located within the surrounding area. Off-site properties are known to handle, store, and/or maintain hazardous materials. Many off-site properties include reported underground storage tanks (USTs), some of which have reported releases to soil/groundwater. All reported releases have received case closure from the Regional Water Quality Control Board (RWQCB).

Underground Storage Tanks

The boom in automobile sales following World War II was closely followed by the construction of thousands of gasoline stations across the country.[1] At these new stations, bare steel tanks were installed underground to store gasoline. The average life expectancy of a steel tank was 30 to 50 years depending on the rate of corrosion of the steel. Since the early 1980s, corrosion of steel tanks, along with faulty installation and operation, have resulted in groundwater contamination by gasoline. Because nearly half of all Americans depend on groundwater for their drinking water, leaking gasoline tanks represent a significant public health hazard. Leaking gasoline tanks can also present the risk of fire and explosion because vapors from leaking tanks can travel through sewer lines into buildings. Fourteen (14) locations have reported Leaking Underground Storage Tanks (LUSTs), with all 14 LUST locations receiving case closure status. However, as many USTs are older and have not been excavated, the potential for unknown soil and groundwater contamination at off-site properties is moderate. The potential for soil and/or groundwater contamination in the project area as a result of off-site UST locations is low due to one or more of the following reasons: elevation, distance from the subject site, site status, no contamination has been reported, and direction of anticipated groundwater flow.

[1] Boulder Area Sustainability Information Network, bcn.boulder.co.us/basin/waterworks/lust.html, accessed on September 10, 2015.

Drug Lab Sites

One (1) property is reported as a drug lab site. Drug labs are commonly discovered in houses, apartments, motel rooms, sheds, or even motor vehicles. Properties used to produce drugs are usually found with a lab-like setting, including containers of chemicals, heat sources, and various types of lab equipment. Typically, after a lab is discovered by law enforcement, the bulk of any lab-related debris, such as chemicals and containers, is removed. However, it is possible a small amount of contamination is left on surfaces and in absorbent materials (e.g., carpets, furniture), sinks, drains, and ventilation systems. Also, the disposal of toxic wastes may occur in sinks, toilets, and bathtubs, resulting in sewers or septic system contamination. Backyards and trash bins are also common disposal sites. Though found in small amounts, drug lab contaminants may pose health threats to persons exposed to them.

POTENTIAL SOIL AND/OR GROUNDWATER CONTAMINATION RESULTING FROM REGULATORY PROPERTIES

Based on the Database Records Search, the following discussion provides information on the existing hazardous materials conditions within the General Plan planning area that may have resulted in soil and/or groundwater contamination.

5.14.2 REGULATORY SETTING

FEDERAL AND STATE

According to the U.S. Environmental Protection Agency (EPA), a “hazardous” waste is defined as one “which because of its quantity, concentrations, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed” (U.S. Public Health and Welfare Code Section 6903). Special handling and management are required for materials and wastes that exhibit hazardous properties. Treatment, storage, transport, and disposal of these materials are highly regulated at both the Federal and State levels. Compliance with Federal and State hazardous materials laws and regulations minimizes the potential risks to the public presented by these potential hazards, which include, but are not limited to, the following:

- Resources Conservation and Recovery Act (RCRA) – hazardous waste management;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – cleanup of contamination;
- Superfund Amendment and Reauthorization Act (SARA) – cleanup of contamination; and
- Hazardous Materials Transportation Act (HMTA) – safe transport of hazardous materials.

These laws provide the “cradle to grave” regulation of hazardous wastes. Businesses, institutions, and other entities that generate hazardous waste are required to identify and track their hazardous waste from the point of generation until it is recycled, reused, or disposed of.

The primary responsibility for implementing RCRA is assigned to the EPA, although individual states are encouraged to seek authorization to implement some or all RCRA provisions.

The EPA and the DTSC have developed and continue to update lists of hazardous wastes subject to regulation. In addition to the EPA and DTSC, the Regional Water Quality Control Board (RWQCB), Central Valley Region (Region 5), is the enforcing agency for the protection and restoration of water resources, including remediation of unauthorized releases of hazardous substances in soil and groundwater. Other State agencies involved in hazardous materials management include the Office of Emergency Services, California Department of Transportation (Caltrans), California Highway Patrol, Air Resources Board (ARB), and the California Integrated Waste Management Board. California hazardous materials management laws include, but are not limited to, the following:

- Hazardous Materials Management Act – business plan reporting;
- Hazardous Substance Act – cleanup of contamination;
- Hazardous Waste Control Act – Hazardous waste management; and
- Safe Drinking Water and Toxic Enforcement Act of 1986 – releases of and exposure to carcinogenic chemicals.

Department of Toxic Substances Control

The responsibility for implementation of RCRA was given to California Environmental Protection Agency's (CalEPA's) DTSC in August 1992. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California but not by EPA are called "non-RCRA hazardous wastes."

State Water Resources Control Board

Brownfields are underutilized properties where reuse is hindered by the actual or suspected presence of pollution or contamination. The goals of the State Water Resources Control Board's (SWRCB) Brownfield Program are to:

- Expedite and facilitate site cleanups and closures for Brownfields sites to support reuse of those sites;
- Preserve open space and greenfields;
- Protect groundwater and surface water resources, safeguard public health, and promote environmental justice; and
- Streamline site assessment, clean up, monitoring, and closure requirements and procedures within the various SWRCB site cleanup programs.

Site cleanup responsibilities for brownfields primarily reside within four main programs at the SWRCB: the Underground Storage Tank Program, the Site Cleanup Program, the Department of Defense Program, and the Land Disposal Program. These SWRCB cleanup programs are charged with ensuring sites are remediated to protect the State of California's surface and groundwater and return it to beneficial use.

California Air Resources Board

The California Air Resources Board (CARB) is a part of the CalEPA. One of CARB's major goals is to protect the public from exposure to toxic air contaminants. The California Air Toxics Program establishes the process for the identification and control of toxic air contaminants and includes provisions to make the public aware of significant toxic exposures and for reducing risk.

The Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner 1983) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly 1987) supplements the AB 1807 program, by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Under AB 1807, ARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, the ARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community." AB 1807 also requires the ARB to use available information gathered from the AB 2588 program to include in the prioritization of compounds. This report includes available information on each of the above factors required under the mandates of the AB 1807 program. AB 2588 air toxics "Hot Spots" program requires facilities to report their air toxics emissions, ascertain health risks, and to notify nearby residents of significant risks. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

Accidental Release Prevention Law

The State's Accidental Release Prevention Law provides for consistency with Federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the State and Federal programs. State and Federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the Federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program. The Accidental Release Prevention Law is implemented by the Certified Unified Program Agencies (CUPAs) and requires that any business, where the maximum quantity of a regulated substance exceeds the specified threshold quantity, register with the responsible CUPA as a manager of regulated substances and prepare a Risk Management Plan. A Risk Management Plan must contain an offsite consequence analysis, a five-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their plans to the CUPA, which makes the plans available to emergency response personnel. The Business Plan must identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

Transportation of Hazardous Materials/Wastes

Transportation of hazardous materials/wastes is regulated by California Code of Regulations (CCR) Title 26. The United States Department of Transportation (DOT) is the primary regulatory authority for the interstate transport of hazardous materials. The DOT establishes

regulations for safe handling procedures (i.e., packaging, marking, labeling, and routing). The California Highway Patrol (CHP) and Caltrans enforce Federal and State regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between Federal, State, and local governmental authorities and private persons through a State mandated Emergency Management Plan.

Worker and Workplace Hazardous Materials Safety

Occupational safety standards exist to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle.

REGIONAL

Central Valley Regional Water Quality Control Board

The Central Valley Regional Water Quality Control Board (RWQCB) is the enforcing agency for the protection and restoration of water resources, including remediation of unauthorized releases of hazardous substances in soil and groundwater. The Underground Storage Tank (UST) Section directs environmental cleanup activities at leaking UST sites. Such sites include active and inactive gasoline stations, agricultural sites, brownfield redevelopment sites, airports, bulk petrochemical storage terminals, pipeline facilities, and various chemical and industrial facilities. The Site Cleanup Section oversees activities at non-UST sites where soil or groundwater contamination have occurred. Many of these sites are former industrial facilities and dry cleaners, where chlorinated solvents were spilled, or have leaked into the soil or groundwater.

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) works with CARB and is responsible for developing and implementing rules and regulations regarding air toxics on a local level. The SJVAPCD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs and/or fines. Refer to Section 5.5, *Air Quality*, for further discussion regarding toxic air emissions.

County of Kern

UNIFIED HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT REGULATORY PROGRAM

The “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program” (Unified Program) was created in 1993 by Senate Bill 1082 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for environmental and emergency management programs. The Program is implemented at the local government level by CUPAs. The Program consolidates, coordinates, and makes consistent the following hazardous materials and hazardous waste programs (Program Elements):

- Hazardous Waste Generation (including onsite treatment under Tiered Permitting);
- Aboveground Petroleum Storage Tanks (only the Spill Prevention Control and Countermeasure Plan or "SPCC");
- Underground Storage Tanks (USTs);
- Hazardous Material Release Response Plans and Inventories;
- California Accidental Release Prevention Program (Cal ARP); and
- Uniform Fire Code Hazardous Material Management Plans and Inventories.

The CUPA with jurisdiction over the City of McFarland and County of Kern is the Kern County Environmental Health Services Department. As part of the duties of the Hazardous Materials Division, staff inspect hazardous material handlers and hazardous waste generators to ensure full compliance with laws and regulations; implement CUPA programs for the development of accident prevention and emergency plans, proper installation, monitoring, and closure of underground tanks and proper handling, storage, transport, and disposal of hazardous wastes.

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

The Hazardous Materials Division of the Kern County Environmental Health Services Department has regulatory control over a number of hazardous material programs. The CUPA Program conducts inspections of businesses that handle hazardous materials, generate hazardous waste, treat hazardous waste, and/or maintain underground storage tanks. The Hazardous Waste Generator Program regulates facilities in the community that generate a hazardous waste. Regulatory requirements are fulfilled through a program of annual permits, supported by routine inspections. This program also regulates facilities that treat hazardous waste under the Tiered Permitting Program. The Hazardous Material Business Plan regulates facilities which handle and store on-site specified types and quantities of hazardous and acutely/extremely hazardous materials through permitting, routine facility inspections, and development of detailed site plans indicating where hazardous materials are stored. The Household Hazardous Waste Program is responsible for regulation of solid waste facilities, medical waste, automotive products and fluids, and fertilizers, among others.

The Hazardous Materials Division also regulates all non-exempt USTs which contain hazardous substances located within Kern County. The UST Program provides plan check services county-wide to all UST facilities being installed, upgraded, modified or repaired. When a leak, spill, overfill, or other release from a UST is discovered, the owners and operators of the USTs, as well as the property owners, are required under state and federal laws to:

- Take necessary corrective actions immediately to stop the release and prevent further impact to the environment;

- Notify the Environmental Health Services Department of the release within 24 hours of discovery; and

- Report the release to the Environmental Health Services Department within five days of discovery. The reporting shall include submittal of an Unauthorized Release Report and a written report documenting the release and corrective actions taken to stop the release and prevent further impact to the environment.

Contamination resulting from an unauthorized release is required to be assessed and mitigated. The investigation and cleanup of soil and groundwater contamination is overseen by the Kern County Environmental Health Services Department.

KERN COUNTY FIRE DEPARTMENT EMERGENCY OPERATIONS PLAN

The Kern County Emergency Operations Plan establishes an emergency management organization and assigns functions and tasks consistent with California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). The Plan provides for the integration and coordination of planning efforts of the County/Operational Area with those of its cities, special districts, and the state. The content is based on guidance provided by the California Emergency Management Agency, the Federal Emergency Management Agency, and Department of Homeland Security. The intent of the Plan is to facilitate emergency response and short-term recovery by providing a framework for response to all significant emergencies, regardless of the nature of the event.

CITY OF MCFARLAND

Local Hazard Mitigation Plan

The Disaster Mitigation Act of 2000 was passed by the United States Congress and signed into law on October 20, 2000. The Act reinforces the importance of planning and preparation for disasters in an effort to reduce disaster losses. The Act streamlines administration of disaster relief and programs to promote mitigation activities. Provisions within the Act require States and Counties to create and implement mitigation strategies in order to remain eligible for federal damage assistance. If a State or County does not develop a mitigation plan, financial assistance for disaster recovery is reduced from 75 percent of total loss to 25 percent.

The City is IN the approval process of a Draft Local Hazard Mitigation Plan (LHMP). The plan is designed to identify natural hazards and disasters that could impact the City, and identify strategies and activities to reduce any losses from those hazards. Examples of such natural hazards/disasters include flooding and earthquakes. The City of McFarland developed the LHMP in an effort to reduce future loss of life and property resulting from natural disasters and to provide increased resiliency for the City, allowing McFarland to return to "the norm" sooner with fewer impacts to people and infrastructure. The LHMP will help reduce the cost of disaster response and recovery to McFarland and its residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions from natural hazards.

McFarland Safety Element

The City of McFarland recently updated its General Plan Safety Element. The purpose of the Safety Element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from natural and human-induced hazards. The Safety Element establishes preventative and responsive policies and programs to mitigate the potential impacts associated with hazards that may affect the City of McFarland. This Element addresses various hazards, hazardous materials, and emergency preparedness and response planning.

5.14.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Create a significant hazard to the public or the environment through the routing transport, use, or disposal of hazardous materials; refer to Impact Statement HAZ-1.

- 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; refer to Impact Statement HAZ-2.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; refer to Impact Statement HAZ-1.

- Be 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; refer to Impact Statement HAZ-3.

- 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, would the project result in a safety hazard for people residing or working in the project area; refer to Section 8.0, *Effects Found Not To Be Significant*.

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area; refer to Section 8.0, *Effects Found Not To Be Significant*.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; refer to Impact Statement HAZ-4.

- 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; refer to Section 8.0, *Effects Found Not To Be Significant*.

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a “significant unavoidable impact”.

5.14.4 IMPACTS AND MITIGATION MEASURES

HAZARDOUS MATERIALS USE, GENERATION, TRANSPORT, OR DISPOSAL

HAZ-1 FUTURE DEVELOPMENT IN ACCORDANCE WITH THE PROPOSED PROJECT COULD RESULT IN AN INCREASED RISK ASSOCIATED WITH THE ROUTINE USE, GENERATION, TRANSPORT, OR DISPOSAL OF HAZARDOUS MATERIALS, WHICH MAY POTENTIALLY POSE A HEALTH OR SAFETY HAZARD TO THE PUBLIC OR THE ENVIRONMENT.

Impact Analysis: Operations of the proposed project could adversely affect the health/safety of the public or environment as a result of routine use, generation, transport, or disposal of hazardous materials. Many types of businesses utilize various chemicals and hazardous materials, or their routine business operations involve chemicals that are manufactured, warehoused, or transported. Currently, a variety of existing business operations in the City and project area use, store, or transport hazardous substances, as well as generate hazardous waste; refer to Section 5.14.1, *Existing Setting*, above. The proposed project would designate land uses within the project area as residential (Low and Medium Density), Mixed-Use, Professional Office, Highway Commercial, Commercial, Light Industrial, Heavy Industrial, and Public and Institutional uses. The types and quantities of hazardous materials utilized by the various types of businesses that could locate in the City would vary and, as a result, the nature of potential hazards would also be varied. Such substances could range from common automobile oil and household pesticides to chlorine, dry-cleaning solutions, ammonia, or substances used in commercial and industrial operations. Therefore, any non-residential development that occurs within the project area may result in an increase in hazardous materials use, transport, or generation of hazardous waste.

Operational Activities

Since the proposed project does not involve any specific development projects, no specific type of hazard associated with the use of these materials can be identified and the likelihood of a hazard presenting a serious health or safety hazard/risk to the public cannot be determined at this time. However, there is a possibility that future nonresidential development within the project area would require or engage in operations that involve the use and transport of hazardous materials. The consequence of this increase of hazardous materials in the City is an increase in the potential for human exposure to these substances, with possible public health and safety consequences.

Chemical storage of any kind over specific quantities (such as 55 gallons of petroleum product) must be publicly reported in accordance with California Proposition 65. Business Plans for businesses storing substances above minimum reporting requirements must be prepared and kept on file with the Kern County Environmental Health Services Department. Additionally, the hazardous materials disclosure would allow for the inspection by and notification to the Kern County Environmental Health Services Department of all businesses that generate, store, and use hazardous materials. Based on the disclosure information, the Kern County Environmental Health Services Department would take an active role in the inspection of businesses with hazardous materials, and would monitor the CUPA data to ensure that the data is timely and accurate.

The Kern County Environmental Health Services Department inspects these businesses every year for adequate storage, handling, and labeling practices and notes changes in quantities. Business contact names, diagrams for storage locations, and emergency spill procedures are part of these Business Plans, which are submitted and approved by the Kern County Environmental Health Services Department. In addition, Proposition 65 requires a material safety data sheet (MSDS) be kept at the business, for each chemical used and stored at each business, which outlines the chemical components and safety handling measures to be followed by employees.

Monitoring of sites which have contamination associated with underground tanks used to store petroleum products is the primary responsibility of the California Department of Health Services and the Regional Water Quality Control Board. Aboveground tanks storing hazardous chemicals would have secondary containment to collect fluids that are accidentally released. Underground storage tanks and connecting piping would be double-walled and would have monitoring devices with alarms installed to constantly monitor for unauthorized releases in accordance with Federal, State, and local standards.

Proximity to School Sites

Existing elementary, middle, and high schools are located within the City, and one school (located at 13402 Garzoli Avenue) is currently being constructed within the project area. In addition, mores schools could be constructed as a result of the proposed project. New businesses that locate near residential areas or within ¼-mile from a school may expose these sensitive land uses to greater risk of exposure to hazardous materials, wastes, or emissions. Methods such as a buffer in the form of a major street, channel, or intervening land use can be used to separate residential areas from industrial areas.

The proposed project allows for commercial, office, and industrial uses that may involve the storage, use, and/or transport of hazardous materials. While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to maintain risk to acceptable levels. Any emissions would be regulated by the SJVAPCD. Compliance with measures established by Federal, State, and local regulatory agencies is considered adequate to offset the negative effects related to the use, storage, and transport of hazardous impacts to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies:

Goal SAF-4: A community protected from the harmful effects of hazardous materials, hazardous waste, and environmental contamination.

Policy SAF-4.1: Ensure that land uses involved in the production, storage, transportation, handling, or disposal of hazardous materials are located and operated to reduce risk to other land uses.

Policy SAF-4.2: When approving new development, ensure that the site:

- Is sufficiently surveyed for contamination and remediation, particularly for sensitive uses near existing or former toxic or industrial sites.

- Is adequately remediated to meet all applicable laws and regulations, if necessary.
- Is suitable for human habitation.
- Is protected from known hazardous and toxic materials.
- Does not pose higher than average health risks from exposure to hazardous materials.

Policy SAF-4.3: Monitor the operations of businesses and individuals that handle hazardous materials through the planning and business permit processes.

Policy SAF-4.4: Work with the appropriate Federal, State, regional, and local agencies to identify previously unidentified contaminated sites in the City, particularly on sites with a high likelihood of past contamination, such as old gas stations or industrial sites, and work with the property owners and applicable agencies to remediate them.

Policy SAF-4.5: Ensure the safe transport of hazardous materials through the City by:

- Restricting transport of hazardous materials within McFarland to designated routes.
- Prohibiting the parking of vehicles transporting hazardous materials on City streets.
- Requiring new pipelines or other channels carrying hazardous avoid residential areas to the greatest extent possible.

Policy SAF-4.6: Support Caltrans and California Highway Patrol efforts to ensure safe transportation of hazardous materials on SR-99.

Policy SAF-4.7: Educate residents and businesses on how to reduce or eliminate the use of hazardous materials and products, and encourage the use of safer, nontoxic, environmentally friendly equivalents.

Policy SAF-4.8: Raise public awareness of appropriate disposal for household hazardous waste, and publicize collection events and locations.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS

HAZ-2 ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS USED, STORED, OR TRANSPORTED IN THE CITY AS A RESULT OF IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN A PUBLIC HEALTH RISK.

Impact Analysis: Implementation of the proposed project could result in an increase in residential units and business park, industrial, office, commercial, and public and institutional uses in the project area and within the City. As noted above, these uses could increase the use and transport of hazardous materials in the City of McFarland. The increased use and transport of hazardous materials in the City increases the potential for accidental releases of hazardous materials, which poses a threat to the health and safety of residents.

Typical incidents that could result in accidental release of hazardous materials include leaking underground storage tanks, accidents during transport causing a "spill" of a hazardous materials and/or natural disasters causing the unauthorized release of a substance. If not cleaned up immediately and completely, these and other types of incidents could cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Existing Properties

On-Site Regulatory Properties

Should unknown hazardous materials contamination be present within on-site soils and/or groundwater as a result of existing properties, there is the potential for accidental disturbance of these materials during grading activities. The project area includes vacant properties, as well as developed properties with historic use, transport, and/or handling of hazardous materials. As detailed above, four regulatory properties are located within the project area and are further discussed as follows:

- *B & D Morris Farms (31900 Whisler Road)*. This property was reported in the HAZNET database. The handling, storage, and/or transport of aqueous solution with total organic residues less than 10 percent. Disposal method was a Transfer Station.

- *Desperado Dairy (31747 Taylor Avenue)*. This property was reported in the AST database. There is a reported 15,950 gallon AST on this property. There are no reports of spills, or reported soil/groundwater contamination from this AST.

- *American Tire Tech (southwest corner of SR-99 and Nill Avenue)*. This property was reported in the SWF/LF and LDS databases. This property is categorized as an open land disposal site.

- *R & F Disposal, Inc. (640 South Frontage Road).* This property was reported in the HAULERS database as a disposal facility, and is registered for hauling activities.

Off-site properties are also known to handle, store, and/or maintain hazardous materials. As discussed above in Section 5.14.1 above, the Database Records Search reported 14 properties within the City (outside of the project area) that have reported LUSTs. However, all 14 LUSTs have received case closure status from the RWQCB.

Future development projects within the project area would identify hazardous material-related impacts from off-site properties on a project-by-project basis. However, due to existing operations involving hazardous materials within the project area, as well as off-site concerns, accidental conditions could arise during grading activities. Compliance with Mitigation Measure HAZ-1 would reduce potential impacts from accidental release of unknown hazardous materials to a less than significant level.

Operations of Proposed Project

Accidental releases would most likely occur in commercial and industrial areas and along transportation routes leading to and from these areas (specifically, the proposed Light Industrial, Heavy Industrial, and Commercial uses to the east of SR-99, and the Mixed-Use and Highway Commercial uses immediately west of SR-99; refer to Exhibit 3-4). According to the *City of McFarland Complete Street 2035 Circulation Element* (Circulation Element), the major transportation corridors in the City of McFarland include SR-99, Elmo Highway, Sherwood Avenue, Hanawalt Avenue, Garzoli Avenue, and Driver Road. It is along these roads that most of the businesses that are likely to use, transport, dispose of, or create hazardous materials are located.

The project proposes to designate land within the City's SOI (previously undesignated by the City), redesignate existing land uses, and add new General Plan mixed-use and highway commercial land use designations. Approval of the proposed project would anticipate future development of residential, commercial, office, mixed-use, business park, industrial, and public and institutional land uses. The level of risk associated with hazardous materials would be evaluated on a project-by-project basis during the development review process.

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (or the Business Plan Act) requires that a business that uses, handles, or stores hazardous materials above a certain quantity prepare a plan which must include an inventory of hazardous substances on the premises. A Risk Management and Prevention Plan (RMPP) may be required for businesses that use acutely hazardous substances and are located in proximity to sensitive land uses. As a part of the Risk Management and Prevention Plan, businesses that handle acutely hazardous materials must include a hazard and operability study (HAZOP), which analyzes potential hazards to sensitive populations in the vicinity. The Kern County Environmental Health Services Department is the CUPA for Kern County and is responsible for regulating hazardous materials business plans and chemical inventory, hazardous waste and tiered permitting, underground storage tanks, and risk management plans. These plans are intended to mitigate accidental conditions involving hazardous substances and would minimize potential harm or damage. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the accidental release of hazardous materials in the City. Therefore, a less than significant impact would occur.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures:

HAZ-1 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following:

- Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area;
- Notify the City's Project Engineer;
- Secure the area as directed by the Project Engineer; and
- Notify the implementing agency's Hazardous Waste/Materials Coordinator. The Hazardous Waste/Materials Coordinator shall advise the responsible party of further actions that shall be taken, if required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

HAZARDOUS MATERIALS SITES

HAZ-3 FUTURE DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD IMPACT HAZARDOUS MATERIAL SITES LISTED ON GOVERNMENT CODE SECTION 65962.5 AND CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT.

Impact Analysis: As noted above, four hazardous materials sites have been listed within the project area. However, these sites have received no further action, and/or do not have reported contamination on-site. In addition, according to the California Environmental Protection Agency (CalEPA), there are no properties within the project area listed on the "Cortese List" (Government Code Section 65962.5).[2] Further, any future development would be evaluated on a project-by-project basis to determine if such sites are listed on a current regulatory hazardous materials site list. Any unknown hazardous materials contamination on these sites discovered during the development process would be required to meet Federal, State, and local standards, and notify the Kern County Environmental Health Services Department (refer to Mitigation Measure HAZ-1). As such, a less than significant impact would occur in this regard.

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure HAZ-1.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

[2] California Environmental Protection Agency, *Cortese List Data Resources,* http://www.calepa.ca.gov/SiteCleanup/CorteseList/, accessed October 9, 2015.

EMERGENCY RESPONSE

HAZ-4 FUTURE DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN INTERFERENCE WITH AN ADOPTED EMERGENCY RESPONSE OR EVACUATION PLAN.

Impact Analysis: Although the project does not propose site-specific development or construction within the project area, future development within the project area could involve street and traffic control improvements, as well as street closures or modifications during construction activities. Traffic and circulation plans are subject to review and approval by the City. Furthermore, plans would be provided to the Police Department and Kern County Fire Department for review and comment. Review by the City and County would ensure implementation of the proposed project would not interfere with an emergency response plan or emergency evacuation plan. Additionally, emergency vehicles would continue to have access to project related and surrounding roadways upon completion of site-specific development. Therefore, impacts would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies:

Policy SAF-6.1: Continue to implement emergency preparedness and response measures in coordination with Kern County's Emergency Operations Plan.

Policy SAF-6.2: Conduct periodic trainings with staff and/or participate in Kern County trainings on emergency operations procedures and response.

Policy SAF-6.3: Support policies and programs that ensure adequate resources are available to respond to health, fire, and police emergencies.

Policy SAF-6.4: Investigate and seek out opportunities to improve emergency access and circulation throughout the community, especially between the east and west sides of the City.

Policy SAF-6.5: Provide residents and businesses with information about local safety hazards and emergency plans, including evacuation plans and procedures to accommodate special needs populations and efficient post-disaster recovery.

Policy SAF-6.6: Support policies and programs to involve and educate the community in emergency preparedness.

Policy SAF-6.7: Collaborate with the school district, businesses, nonprofit organizations, and community members/groups to maintain safety throughout the City.

Policy SAF-6.8: Involve the Police Department in the development review process to address safety concerns, access issues, and potential traffic conflicts, and identify opportunities to apply Crime Prevention Through Environmental Design (CPTED) principles.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.14.5 CUMULATIVE IMPACTS

CUMULATIVE HAZARDOUS MATERIALS IMPACTS

HAZ-5 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND CUMULATIVE DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO PUBLIC HEALTH AND SAFETY.

Impact Analysis:

Construction-Related Accidental Release of Hazardous Materials

As noted above, the proposed project does not include any construction activities. However, future development within the project area is anticipated. Although there are no properties within the project area with known contamination from hazardous materials, it is possible that unknown hazardous materials could be discovered during grading activities. With implementation of Mitigation Measure HAZ-1, short-term construction impacts from unknown on-site hazardous materials would be reduced to a less than significant level. These impacts are anticipated to be project-specific and not cumulatively contributable. Thus, cumulative impacts in this regard are less than significant.

Transport of Hazardous Materials

Future excavation/grading activities and/or site disturbance of existing building materials could result in the off-site transport and disposal of hazardous substances, in the event that these substances are encountered. However, the handling, transport, and disposal of these substances are regulated by the DTSC, CalEPA, CalOSHA, and the Kern County Environmental Health Services Department. Adherence to the requirements of affected regulatory agencies regarding the handling, transport, and disposal of hazardous materials would result in less than significant impacts.

Site disturbance, demolition/renovation, and/or construction associated with the cumulative projects could require the off-site transport and disposal of hazardous substances. As discussed above, future development within the project area could similarly require the off-site transport and disposal of hazardous substances. However, the handling, transport, and disposal of these materials are regulated by the DTSC, CalEPA, CalOSHA, and the Kern County Environmental Health Services Department. The construction contractor would be subject to the requirements of the DTSC governing removal actions. DTSC regulations require specific hazardous materials handling methods, truck haul routes, and schedules to minimize potential exposure during hazardous materials removal actions. To reduce the likelihood and severity of accidents during transit, compliance with all applicable Federal and State laws related to the transportation of hazardous materials would be required. Therefore, the Project's incremental effects to cumulative impacts due to the transportation of hazardous materials would not be considered significant.

Operations

The proposed commercial, residential, office, industrial, and public and institutional land uses could involve the routine transport, use, or disposal of hazardous materials. These uses that may store, handle, and/or transport hazardous materials would be required to procure business plans and adhere to strict procedures enforced by the Kern County Environmental Health Services Department, EPA, and DTSC. The nearest cumulative projects are located approximately 0.75-mile, and 1.10 miles to the north/northwest of the project area, and consist of two tentative tract maps. These cumulative projects are not anticipated to regularly involve the handling or transport of hazardous materials in reportable quantities. As such, a less than significant cumulative impact would occur and the project's incremental impact would not be significant on a cumulative basis.

Hazardous Materials Sites

There are no properties within the project area that are listed in the "Cortese List" pursuant to Government Code Section 65962.5. The nearest cumulative projects are located approximately 0.75-mile, and 1.10 miles to the north/northwest of the project area, and consist of two tentative tract maps. According to the CalEPA website, these cumulative projects are not listed per Government Code Section 65962.5. Thus, a less than significant cumulative impact would occur and the project's incremental impact would not be significantly cumulatively considerable.

Interference with an Adopted Emergency Response or Evacuation Plan

As discussed above, although the project does not consist of any development or construction activities, future development within the project area could involve street and traffic control improvements, as well as street closures or modifications during construction activities. However, traffic and circulation plans are subject to review and approval by the City. Review by the City would ensure implementation of the proposed project would not interfere with an emergency response plan or emergency evacuation plan. The nearest known cumulative projects are located approximately 0.75-mile, and 1.10 miles to the north/northwest of the project area, and consist of two tentative tract maps. These cumulative projects would also be required to comply with the City of McFarland's access standards, the Kern County Fire Department's emergency access standards, and would be subject to Final Design review. Any future development within the surrounding area would be reviewed on a project-by-project basis to ensure emergency response access would be provided. As such, a less than significant cumulative impact would occur.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measure HAZ-1.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

5.14.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Hazards and hazardous materials impacts associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the applicable Federal, State, and local regulations, General Plan Objectives/Policies, and Mitigation Measure HAZ-1. No significant unavoidable impacts from hazards and hazardous materials would occur as a result of project implementation.

Section 5.15
Public Services and Utilities

5.15 PUBLIC SERVICES AND UTILITIES

Public services in this section include fire protection, police protection, schools, recreation, and public libraries. The utilities and service systems analysis includes wastewater (sewer), and solid waste, electricity and natural gas. This section examines existing conditions, which provide the necessary baseline information. Criteria by which an impact may be considered potentially significant are provided, along with a discussion of impacts pursuant to Appendix G of the CEQA Guidelines. Mitigation measures are identified to avoid or lessen potential impacts, where necessary.

This section is based upon information from public service and utility agencies; refer to Appendix I, *Public Service/Utility Correspondence*.

5.15.1 EXISTING SETTING

PUBLIC SERVICES

Fire Protection

The Kern County Fire Department (KCFD) provides fire protection services to the City of McFarland. Additionally, the KCFD provides services to the cities of Delano, Wasco, Shafter, Arvin, Ridgecrest, and cooperates fully with the cities of Bakersfield, Taft, and California City.[1] The KCFD also serves the unincorporated areas of the County. The KCFD has 14 Mutual Aid agreements with other fire suppression organizations including the California Department of Forestry and Fire Protection (CAL Fire), United States Department of Agriculture (USDA) Forest Service Sequoia, United States Department of Interior (USDI) Bureau of Land Management (BLM), among others.[2]

The KCFD fire protection services include fire suppression, emergency medical services, hazardous materials mitigation, fire prevention, rescue, air operations, training and public education, arson investigation, and apparatus maintenance. KCFD serves over 500,000 citizens and has 46 fire stations throughout the County.[3] Fire Station 33, located approximately one mile to the north, is the nearest station to the project site.

Target response times for KCFD are five to seven minutes, and target staffing is three people per engine or truck.[4] According to KCFD, staffing levels are considered adequate under existing conditions; however, as the County continues to grow in the next five to seven years, additional stations and personnel will be required.[5]

[1] Kern County Fire Department, *Unit Strategic Fire Plan Kern County Fire Department,* http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1165.pdf, accessed on May 27, 2015.

[2] Kern County Fire Department, *About Us,* http://www.kerncountyfire.org/about-us.html, accessed on May 27, 2015

[3] Ibid.

[4] Written Correspondence, Jeff Nickell, District Manager, *McFarland Recreation and Park District,* November 4, 2015.

[5] Ibid.

Police Protection

The McFarland Police Department is responsible for providing police protection services to the citizens of McFarland. The police station is located approximately 0.75-mile north of the project site at 401 West Kern Avenue in City Hall. The Police Department is a full service department. Services include the Patrol Bureau, Investigations Bureau, Traffic Bureau, K-9 Unit, Bicycle Unit, Reserve Officers, Chaplain Bureau, Animal Control, Neighborhood Watch Explorer Program, Volunteer Program, Property and Evidence Unit, Communications Bureau, Records Bureau and Police Reserves.[6] The Department operates a 24-hour dispatch center and provides 24-hour patrols in the community.[7] Target response times are between approximately 3 and 5 minutes, and the target staffing level is one officer per 1,000 persons.[8]

The portion of the project site within the Sphere of Influence (SOI) is served by the Kern County Sherriff Department (KCSD). The KCSD provides protection to the unincorporated areas of Kern County. The Department is responsible for the jail system, search and rescue, coroner services, and civil process.[9]

Schools

The McFarland Unified School District (MUSD) serves the City of McFarland and surrounding unincorporated areas. The school district currently serves approximately 3,544 students with two elementary schools, one middle school, and two high schools.[10] The district has a capacity of 3,252 students. A new elementary school has recently been constructed within the project area and will serve the southern portion of the District boundary in the 2016/2017 school year.

Parks and Recreation

The McFarland Parks and Recreation District maintains four parks (Ritchey, Sherwood, Browning Road, and Munoz) within the City and offers recreational programs to the community. A 15-acre park is currently under construction on East Sherwood Lane and an additional park is planned for construction on Hail Lane over the next two years. In addition to parks maintained by the Parks and Recreation District, approximately 70 acres of MUSD property is available through a joint-use agreement for recreation programming. Ritchey Park, located at the southwest corner of the Taylor Avenue and Mast Avenue intersection, is located within the boundaries of the project area.

Library

The Kern County Library serves the City of McFarland through the Clara M. Jackson branch library, located approximately 0.60-mile to the north/northwest of the project site. The Clara M. Jackson branch opened on March 23, 1995, and includes a multi-purpose community meeting room, public computers, and materials in both English and Spanish languages. The branch is

[6] City of McFarland, *Police Department*, http://www.mcfarlandcity.org/203/Police-Department, accessed on May 27, 2015.

[7] Ibid.

[8] Written Correspondence, Jerrod Place, Sergeant, February 16, 2016.

[9] Kern County Sheriff Department, http://www.kernsheriff.com/Pages/default.aspx, accessed on May 27, 2015.

[10] Written Correspondence, Sandy Hannah, Facilities Specialist, McFarland Unified School District, March 17, 2016.

open 24 hours a week. The branch library holds 18,446 volumes and serves a population of 12,245. Currently the branch library facilities are adequate for the needs of the community. However, according to library staff, due to budgetary constraints, the branch library facility provides fewer resources per capita than many comparable-sized libraries. [11]

UTILITIES

Water

SUPPLY AND DEMAND

The City of McFarland is the water provider for the City and is responsible for calculation and generation of utility bills within City limits for all water, sewer, refuse, recycling and gate fees. Currently, the City's peaking source capacity is 7,300 gallons per minute (gpm) with an approximate annual consumption of 1,825 acre feet (ac-ft). The maximum daily water use is estimated as 11,028 cubic feet per second (cfs) and peak demand is estimated at 7.43 millions of gallons per day (mgd).

Groundwater

The City of McFarland derives its water supply solely from its groundwater wells. The current rate of local groundwater extraction is approximately 1,825 ac-ft per year.[12] Nitrate, 1, 2-Dibromo-3-chloropropane (DBCP), Ethylene bromide (EDB), and 1, 2, 3-Trichloropropane (TCP) can be found in the City's shallow groundwater. According to the Environmental Protection Agency (EPA), DBCP is an organic odorless yellow substance used primarily for soil fumigation. EDB is a colorless, heavy synthetic organic liquid mainly used in anti-knock gasoline mixtures.[13] TCP is a man-made chemical usually used as an industrial solvent.[14] For this reason, City-supply wells are completed in the deeper aquifer.[15]

Two of the City water wells meet all Drinking Water Standards and were constructed without requiring treatment. One of the City wells exceeds the Arsenic maximum contaminant level and is currently being treated.[16]

Recycled Water

The City currently does not have a water recycling program.

Water Facilities

There are no known water infrastructure facilities within the project area. However, there are existing water mains and gate valves along the northerly edge of the project area along Taylor Avenue and Sherwood Avenue.[17]

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[11] Written Correspondence, Melissa Mejia, Library Associate, Clara M. Jackson branch library, December 17, 2015.

[12] Written Correspondence, Amando Garza, City of McFarland Public Works Department, October 21, 2015.

[13] Environmental Protection Agency, *1,2-Dibromo-3-Chloropropane (DBCP)*, https://www3.epa.gov/airtoxics/hlthef/dibromo-.html, accessed on October 21, 2015.

[14] Written Correspondence, Amando Garza, City of McFarland Public Works Department, October 21, 2015.

[15] Ibid.

[16] Ibid.

[17] Ibid.

Wastewater

WASTEWATER COLLECTION AND TREATMENT

The City of McFarland is responsible for wastewater collection and treatment. The City currently operates a wastewater treatment plant (WWTP) located approximately 2.25 miles to the northwest of the project site. The WWTP has a capacity of 1.55 mgd and is currently processing an average monthly flow of 1.1 mgd.[18] According to the City's website, the plant consists of four lagoons with an operating depth of 12 feet each. There are two mix aerated lagoons operated in parallel, and two partial mix aerated lagoons operated in series. Each lagoon has a detention time of three days at design flow.

All treated effluent that flows into the storage reservoirs are disposed of onsite by agricultural irrigation on City-owned farmland. The WWTP is currently in construction for a phased expansion. The plant will be expanded from 1.55 to 2.5 mgd.

WASTEWATER FACILITIES

There are currently wastewater collection lines located in the western portion of the project site, along Taylor Avenue, Mast Avenue, and local residential streets in the residential neighborhood to the south of Taylor Avenue.

Solid Waste

The City Contracts with R & F Disposal & Recycling, Inc. for curbside refuse, greenwaste, and recycling services. The City's Refuse Department oversees the management of the City's Solid Waste Program, which promotes waste reduction and recycling.

Kern County Waste Management Department operates seven landfills, four transfer stations and three bin sites. The nearest landfill, Shafter-Wasco Landfill, located at 17621 Scofield Road in the City of Shafter, is approximately 13 miles from the project site. . The landfill accepts clean inerts, construction and demolition, dead animals, electronic waste, greenwaste, tires, treated wood, and ordinary household trash.[19] The Shafter-Wasco landfill has 7,901,339 cubic yards (or 5,932,303 tons) of remaining capacity.[20] There are a total of five transfer stations, including one located in the McFarland-Delano area, that similar to the landfill, allows trash to be taken for disposal.[21] The transfer station located within the McFarland-Delano area accepts waste from residential self-haulers and commercial refuse haulers.

Electrical Services

The City is located entirely within Southern California Edison's (SCE) service territory. SCE maintains and operates the transmission and distribution infrastructure necessary to provide electricity to end users within McFarland and throughout its entire service area.

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[18] Ibid.

[19] Kern County Waste Management, *Disposal Sites, Landfills, Shafter-Wasco*, http://www.kerncountywaste.com/disposal-sites/shafter-wasco, accessed October 29, 2015.

[20] CalRecycle, *Shafter-Wasco Recycling & Sanitary LF (15-AA-0057)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/15-AA-0057/Detail/, accessed November 20, 2015.

[21] Kern County Waste Management, *Disposal Sites Overview,* http://www.kerncountywaste.com/disposal-sites, accessed June 12, 2015.

Natural Gas Services

McFarland is located entirely within Southern California Gas Company's (SCG) service territory. SCGC natural gas service lines are currently provided to the project site.

5.15.2 REGULATORY SETTING

FIRE PROTECTION

CAL Fire

Under Title 14 of the Natural Resources of the California Code of Regulations (CCR), CAL Fire has the primary responsibility for implementing fire wildlife planning and protection for State Responsibility Area (SRA) lands. CAL Fire develops fire safe regulations and issues fire safe clearances for land within a fire district of SRA. The CAL Fire Resource Management Program manages more than 31 million acres of California's privately-owned wildlands, and provides emergency services in 36 of the state's 58 counties via contracts with local governments.

In addition to wildland fires, CAL Fire's planning efforts involve responding to other types of emergencies that may occur on a daily basis, including residential or commercial structure fires, automobile accidents, heart attacks, drowning victims, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes.

Under Title 24, Regulations Development, the Office of the State Fire Marshal (OSFM) is responsible for promulgating regulations that promote fire and life safety for inclusion into the State Building Codes, including the California Building Code, California Fire Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Historical Building Code. These documents are also referred to as California Code of Regulations, Title 24. The process incorporates a great deal of public participation and is guided by the State Building Standards Law.

California Occupational Safety and Health Administration

In compliance with CCR, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of firefighting and emergency medical equipment, among others.

City of McFarland Fire Code

According to McFarland Municipal Code Chapter 15.16, Fire Prevention Code, the City has adopted the 2013 California Fire Code (incorporating the 2012 International Fire Code). The California Fire Code specifies regulations pertaining to fire or explosion.

POLICE PROTECTION

California Penal Code

The California Penal Code establishes the basis for the application of criminal law enforcement in California.

City of McFarland Municipal Code

Municipal Code Chapter 2.28, Police Department, and Chapter 2.30, Police Protective Services, establish the standards for staffing and funding the McFarland Police Department.

SCHOOLS

Assembly Bill 2926

The State of California has traditionally been responsible for the funding of local public schools. To assist in providing facilities to serve students generated by new development projects, the State passed Assembly Bill (AB) 2926 in 1986. This bill allowed school districts to collect impact fees from developers of new residential and commercial/industrial building space. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

Senate Bill 50 and Proposition 1A

Senate Bill (SB) 50 and Proposition 1A, both of which passed in 1998, provided a comprehensive school facilities financing and reform program, in part by authorizing a $9.2 billion school facilities bond issue, school construction cost containment provisions, and an eight-year suspension of the Mira, Hart, and Murrieta court cases. Specifically, the bond funds are to provide $2.9 billion for new construction and $2.1 billion for reconstruction/modernization needs.

The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate, and reinstates the school facility fee cap for legislative actions (e.g., General Plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart, and Murrieta court cases. The statutes state that these fees are the exclusive means of considering as well as mitigating school impacts caused by new development. Accordingly, these fees limit the scope of impact review in an EIR, the mitigation that can be imposed, and the findings a lead agency must make in justifying its approval of a Project (Government Code Sections 65995-65996). According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." These provisions remain in place as long as subsequent State bonds are approved and available.

SB 50 also establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district. Level One Fees are the statutory fees, which can be adjusted for inflation every two years. Level Two Fees allow school districts to impose fees beyond the base statutory cap, under specific circumstances. Level Three Fees come into effect if the State runs out of bond

funds after 2006, which would allow school districts to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school monies. The school fee amounts provided for in Government Code §§ 65995, 65995.5, and 65995.7 would constitute full and complete mitigation for school facilities.

In order to accommodate students from new development projects, school districts may alternatively finance new schools through special school construction funding resolutions and/or agreements between developers, the affected school districts, and occasionally, other local governmental agencies. These special resolutions and agreements often allow school districts to realize school mitigation funds in excess of the developer fees allowed under SB 50.

The passage of Proposition 1A in 1998 created the SFP, in order to streamline the process districts go through to obtain state funding. Pursuant to the SFP, funding for new construction and modernization is provided by the State in the form of per-pupil grants. Generally, projects also require local matching funds. The SFP also implemented numerous reforms intended to streamline the application process, simplify the state facilities program, and create a more transparent and equitable funding mechanism.

PARKS AND RECREATION

Quimby Act

The Quimby Act, or California Government Code § 66477, states that the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative map or parcel map, provided certain requirements are met. This Section further states that “the dedication of land, or the payment of fees, or both, shall not exceed the proportionate amount necessary to provide three (3.0) acres of park area per 1,000 persons residing within a subdivision subject to this section.”

City of McFarland Municipal Code

Municipal Code Section 16.34, Parks and Recreational Land Division, requires new residential development to dedicate land, pay a fee in lieu thereof, or both, for the dedication/construction of park and recreational facilities in compliance with the Quimby Act.

WATER SUPPLY

Federal Safe Drinking Water Act of 1974

The Safe Drinking Water Act (SDWA) authorizes the U.S. Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The EPA, states, and water systems then work together to make sure that these standards are met. Originally, SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap. SDWA applies to every public water system in the

United States. There are currently more than 160,000 public water systems providing water to almost all Americans at some time in their lives.

Senate Bills 221 and 610

Senate Bills (SB) 221 and 610 were signed into law in 2001 and took effect January 1, 2002. The two bills amended State law to better link information on water supply availability to certain land use decisions by cities and counties. The two companion bills provide a regulatory forum that requires more collaborative planning between local water suppliers and cities and counties. SB 221 and 610 reports are generated and adopted by the public water supplier. SB 610 requires a detailed report regarding water availability and planning for additional water suppliers that is included with the environmental document for specified projects. All projects that meet any of the following criteria require the water availability assessment:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel and/or motel having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant or an industrial park planned to house more than 1,000 persons, occupying more than 60 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision; or
- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

While SB 610 primarily affects the Water Code, SB 221 principally applies to the Subdivision Map Act. The primary effect of SB 221 is to condition every tentative map for an applicable subdivision on the applicant by verifying that the public water supplier (PWS) has sufficient water supply available to serve it. Under SB 221, approval by a city or county of certain residential subdivisions requires a written verification of sufficient water supply. SB 221 applies to any subdivision, defined as:

- A proposed residential development of more than 500 dwelling units (if the PWS has more than 5,000 service connections); or
- Any proposed development that increases connections by 10 percent or more (if the PWS has fewer than 5,000 connections).

Future development would be required to comply with SB 610 and SB 221 if the above conditions are met in order to ensure that adequate water supplies are available to serve the development being proposed at the time.

Senate Bill 7x7

SB 7x7, the Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. The bill requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a standardized water use reporting form, which would be used by both urban and agricultural water agencies. SB 7x7 sets an overall goal of reducing per capita water use by 20 percent by December 31, 2020. The state shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015.

Assembly Bill 3030

Assembly Bill (AB) 3030, the Groundwater Management Act, is Section 10750 et seq. of the California Water Code. AB 3030 provides local water agencies with procedures to develop a groundwater management plan so those agencies can manage their groundwater resources efficiently and safely while protecting the quality of supplies. Under AB 3030, the development of a groundwater management plan by a local water agency is voluntary. Once a plan is adopted, the rules and regulations contained therein must also be adopted to implement the program outlined in the plan.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (Water Code Section 10720 et seq.) was enacted in 2014. The Act, and related amendments to California law, require that all groundwater basins designated as high- or medium-priority in the Department of Water Resources (DWR) California Statewide Groundwater Elevation Monitoring (CASGEM) program and that are subject to critical overdraft conditions must be managed under a new Groundwater Sustainability Plan (GSP), or a coordinated set of GSPs, by January 31, 2020. High- and medium-priority basins that are not subject to critical overdraft conditions must be managed under a GSP by January 31, 2022. Where GSPs are required, one or more local groundwater sustainability agencies (GSAs) must be formed to cover the basin and prepare and implement applicable GSPs. The Act does not apply to basins that are managed under a court-approved adjudication, or to low-or very-low-priority basins.

A GSA has the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and to request revisions of basin boundaries, including establishing new subbasins. The preparation of a GSP by a GSA is exempt from CEQA. Each GSP must include a physical description of the covered basin, such as groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans.

The Act defines groundwater as “water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, but does not include water that flows in known and definite channels.” A groundwater extraction facility is defined as “a device or method for extracting groundwater from within a basin” Water Code Section 10721(g-h). GSPs are reviewed by the DWR to ensure that, over a period of 20 years, “sustainable groundwater management” is achieved. As defined by the Act, sustainable groundwater

management means that groundwater use within basins managed by a GSP will not cause any of the following "undesirable results":

- Chronic lowering of groundwater levels (not including overdraft during a drought, if a basin is otherwise managed);
- Significant and unreasonable reductions in groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degradation of water quality;
- Significant and unreasonable land subsidence; and
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses (Water Code Section 10721(w)).

The DWR must adopt regulations for the preparation of a GSP by January 2016, and GSAs must be formed for high- and medium-priority basins by June 2017. The current CASGEM maps identify virtually all of the valley floor groundwater basins in the project area as "high-priority" basins (DWR, n.d.). Unless subsequently revised, GSPs must be implemented for these basins by January 2020 where critical overdraft conditions have been identified, or by 2022. At present, no GSA has been formed and no GSP has been adopted for any portion of the project area. In April 2015, Governor Brown issued an executive order requiring that the CASGEM groundwater level monitoring requirements identified in Water Code Section 10933 be implemented by local agencies by the end of 2015 (State of California 2015).

Efficiency Standards

Title 24 of the California Administrative Code contains the California Building Standards, including the California Plumbing Code (Part 5), which promotes water conservation. Title 20 of the California Administrative Code addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Title 20, California Administrative Code, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.
- Title 20, California Administrative Code, Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Health and Safety Code, Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.

- Health and Safety Code, Section 116785 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied, and includes the requirement that water conservation devices on fixtures using softened or conditioned water be installed.

California Urban Water Management Plans

In order to support long-term resource planning and ensure adequate urban water supplies are available to meet existing and future water demand, California urban water suppliers prepare an Urban Water Management Plan (UWMP).[22] According to the California Department of Water Resources, every 5 years, urban suppliers providing more the 3,000 acre-feet of water annually, or serving more than 3,000 urban collections are required to assess the reliability of its water sources over a 20-year span. As required by the Water Conservation Bill of 2009 SBX7-7, UWMPs also report its progress on 20% reduction in per-capita urban water consumption by the year 2020.

Water is supplied to the residents of McFarland by the City's Public Works Department Water Division; the underlying groundwater basin is the sole source of municipal water. According to the City, McFarland's water consumption is below the annual 3,000 acre-foot threshold that requires preparation of an UWMP.

City of McFarland Municipal Code

Water use standards are contained in Municipal Code Section 13.04, Water Wells and Water Supply Systems. Section 13.04 contains provisions for the design, construction, and modifications of public and nonpublic water systems, and the permitting of the same, to assure an adequate supply of pure, wholesome and potable water for the users.

WASTEWATER

National Pollutant Discharge Elimination System

As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City is within the jurisdiction of the Central Valley RWQCB.

The Central Valley RWQCB is currently working with Phase I and II permittees to develop a Region-wide MS4 Permit (Region-wide Permit) that could include both Phase I and II MS4 Permittees within the Central Valley region. Currently, each Phase I MS4 Permittee is covered under an individual permit issued by the Central Valley RWQCB. Phase II MS4 Permittees are currently covered under the State Water Resources Control Board's Phase II MS4 (Order No. 2013-001 DWQ). Central Valley RWQCB staff is developing a single Region-wide Permit that

[22] California Department of Water Resources, *About Urban Water Management*, http://www.water.ca.gov/urbanwatermanagement, accessed December 10, 2015.

would promote greater watershed/drainage shed coordination and water quality measure protections, and promote greater program implementation efficiencies.

City of McFarland Municipal Code

Municipal Code Section 13.12.180, Discharge of Industrial Wastewater Prohibited, prohibits industrial wastewater (as defined in Section 13.12.020) to be discharged either directly or indirectly to a City sewer until a permit for industrial wastewater discharge has been approved by the City.

SOLID WASTE

California Department of Resources Recycling and Recovery

The California Department of Resources Recycling and Recovery (CalRecycle) is the State agency designated to oversee, manage, and track California's waste generated each year. CalRecycle is one of the six agencies under the umbrella of the California Environmental Protection Agency (Cal/EPA). CalRecycle develops regulations to control and manage waste, for which enforcement authority is typically delegated to the local government. CalRecycle works jointly with local governments to implement regulations and fund programs.

California Integrated Waste Management Act

In 1989, the Legislature adopted the California Integrated Waste Management Act of 1989 (AB 939) to "reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible." The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 establishes a waste management hierarchy as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation; and
- Disposal.

The law also requires that each county prepare a new Integrated Waste Management Plan and each city prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. The SRRE is required to identify how each jurisdiction will meet the mandatory state waste diversion goal of 50 percent by the year 2000. The Act mandated that California's 450 jurisdictions (i.e., cities, counties, and regional waste management compacts), implement waste management programs aimed at a 25 percent diversion rate by 1995 and a 50 percent diversion rate by 2000. If the 50 percent goal was not met by the end of 2000, the jurisdiction was required to submit a petition for a goal extension to CalRecycle. Senate Bill (SB) 2202 made a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act. These changes included a revision to the statutory requirement for 50 percent diversion of solid waste to clarify that local governments shall continue to divert 50 percent of all solid waste

on and after January 1, 2000. California jurisdictions are required to submit annual reports to CalRecycle to update their progress in reducing waste set forth in AB 939 goals.[23]

Mandatory Commercial Recycling

On May 7, 2012, the Office of Administrative Law approved Assembly Bill (AB) 341 to adopt regulations for mandatory commercial recycling. The law addresses recycling requirements for businesses that generate 4 or more cubic yards of commercial solid waste per week and multifamily residential dwellings with 5 or more units, regardless of the amount of waste generated. In addition, local jurisdictions would need to implement a program that includes education, outreach, monitoring and reporting. The regulations are designed to allow jurisdictions flexibility to utilize their existing tools and solid waste management infrastructure to inform the businesses of the state requirement and to follow up with businesses that are not recycling. In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020. This is not written as a 75 percent diversion mandate for each jurisdiction. CalRecycle would evaluate the jurisdiction's implementation of its outreach, education, and monitoring programs during its AB 939 review of the jurisdiction's SRRE.

City of McFarland Municipal Code

McFarland Municipal Code Chapter 8.10, Mandatory Construction and Demolition Debris Recycling Program, requires all applicants for construction projects to submit a recycling plan to the City prior to issuance of a permit and prior to beginning any project (including construction, deconstruction, demolition, and renovation).

5.15.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines, as amended, and used by the City of McFarland in its environmental review process. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

PUBLIC SERVICES

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire Protection; refer to Impact Statement PSU-1.
    - Police Protection; refer to Impact Statement PSU-2.
    - Schools; refer to Impact Statement PSU-3.
    - Parks; refer to Impact Statement PSU-4.
    - Other Public Facilities (Libraries); refer to Impact Statement PSU-5.

[23] California Public Resources Code Section 41821, http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=41001-42000&file=41820.5-41822.

RECREATION

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; refer to Impact Statement PSU-4.

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment; refer to Impact Statement PSU-4.

UTILITIES AND SERVICE SYSTEMS

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; refer to Impact Statement PSU-8.

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; refer to Impact Statements PSU-7 and PSU-8.

- Require or result in the construction of new wastewater facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; refer to Impact Statement PSU-8.

- Require or result in the construction of wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; refer to Impact Statement PSU-8.

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; refer to Section 5.8, Hydrology and Water Quality.

- Have insufficient water supplies available to serve the project from existing entitlement and resources, and new or expanded entitlement is needed; refer to Impact Statements PSU-6 and PSU-7.

- Result in a determination by the wastewater treatment provider, which serves or may serve the project that does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; refer to Impact Statement PSU-8.

- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; refer to Impact Statement PSU-9.

- Comply with Federal, State, and local statutes and regulations related to solid waste; refer to Impact Statement PSU-9.

Based on these standards, the project's effects have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less

than significant level through the application of mitigation, it is categorized as a "significant unavoidable impact."

5.15.4 IMPACTS AND MITIGATION MEASURES

FIRE PROTECTION SERVICES

PSU-1 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE INCREASED DEMAND FOR FIRE PROTECTION SERVICES.

Impact Analysis: Project implementation would allow for increased development within the project area, which would result in an increased demand for fire protection services. The project does not propose site-specific development, including new or physically altered fire protection facilities. KCFD confirmed that current staffing levels and facilities are adequate to serve the project site. While an increased demand for services is anticipated, KCFD has confirmed that there would be no need for physical additions to existing stations or construction of new fire stations within the next few years, as a result of the project.[24] However, as noted by the KCFD, the need for new fire stations and staffing would be required to meet target response times as the County's population continues to grow in the next five to seven years.[25] The environmental impacts associated with the provision of new or physically altered fire facilities would be dependent upon the location and nature of the facilities and would undergo separate environmental review pursuant to CEQA Guidelines.

Development proposed within the project area would be reviewed as part of the City's development review process on a case-by-case basis in order to adequately identify potential impacts to fire protection services and facilities and determine if additional staffing and facilities are needed to serve the development being proposed at that time. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. In reviewing future annexation proposals, LAFCO would consider several factors including, but not limited to population and population density and the likelihood of significant growth in the area and in adjacent incorporated areas during the next 10 years; the need for need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas; the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change; the extent to which the proposal will affect a city or cities, and the county in achieving their respective fair shares of the regional housing needs; and any information relating to existing land use designations.

Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any increase in demand for fire protection services would occur gradually, as

[24] Written Correspondence, Cary Wright, Captain, December 16, 2015.
[25] Ibid.

additional development occurs within the area. Therefore, a less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Policy SAF-1.1: Support projects, programs, policies, and regulations to mitigate potential impacts associated with natural and man-made hazards.

Policy SAF-1.5: Investigate and pursue available funding sources to fund safety programs, provide services, upgrade/construct facilities, and purchase equipment.

Policy SAF-5.1: Continue to coordinate fire protection services with Kern County Fire Department to ensure sufficient capacity, stations, personnel, and equipment are available to meet growth needs in McFarland for fire protection and related emergency services.

Policy SAF-5.2: Ensure adequate water supply and water pressure is provided throughout the City for firefighting purposes.

Policy SAF-5.3: Ensure all new development provides adequate access for emergency vehicles and evacuation.

Policy SAF-5.4: Regularly update building and fire codes to provide for fire safety design.

Policy SAF-5.5: Promote public safety education programs to reduce accidents, injuries, and fires, as well as to train members of the public to respond to emergencies.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

POLICE PROTECTION SERVICES

PSU-2 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE INCREASED DEMAND FOR POLICE PROTECTION SERVICES.

Impact Analysis: Project implementation would allow for increased development within the project area, including residential and non-residential uses. The increased development could result in an increased demand for police protection services to the project area. The McFarland Police Department's target response times are between three and five minutes. According to the police department, future development anticipated by the proposed project has the potential to increase calls for service and investigations of crimes. An increase in these incidents on current staffing levels would increase time spent on handling service calls and associated report writing while reducing available discretionary time aimed at crime reduction. Further, an increase in service calls could also result in increased response times and increased wait for police services. At this time, the McFarland Police Department has indicated that although

project implementation may increase calls for service to the area, no physical additions to police protection facilities would be needed.[26] It is noted, however, that McFarland Police Department is currently in the planning stages for a new police department building to accommodate improved police services for the City. The environmental impacts associated with the provision of new or physically altered police facilities would be dependent upon the location and nature of the facilities and would undergo separate environmental review pursuant to CEQA Guidelines.

As stated, future development proposed within the project area would be reviewed as part of the City's development review process on a case-by-case basis in order to adequately identify potential impacts to public services and facilities, including police protection services, and determine if additional staffing and facilities are needed to serve the development being proposed at that time. Additionally, any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. In reviewing future annexation proposals, LAFCO would consider the likelihood of significant growth; the cost and adequacy of governmental services in the area, future need of those services, and the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change. Thus, any future development would be reviewed to ensure that adequate services would be available to serve the development being proposed at the time.

Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any increase in demand for police protection services would occur gradually, as additional development occurs within the area. Therefore, a less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Policy SAF-1.1: Support projects, programs, policies, and regulations to mitigate potential impacts associated with natural and man-made hazards.

Policy SAF-1.5: Investigate and pursue available funding sources to fund safety programs, provide services, upgrade/construct facilities, and purchase equipment.

Policy SAF-6.2: Conduct periodic trainings with staff and/or participate in Kern County trainings on emergency operations procedures and response.

Policy SAF-6.3: Support policies and programs that ensure adequate resources are available to respond to health, fire, and police emergencies.

Policy SAF-6.8: Involve the Police Department in the development review process to address safety concerns, access issues, and potential traffic conflicts, and identify opportunities to apply Crime Prevention Through Environmental Design (CPTED) principles.

[26] Written Correspondence, Jerrod Place, Sergeant, February 16, 2016.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

SCHOOLS

PSU-3 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE PROVISION OF SCHOOL FACILITIES AND SERVICES.

Impact Analysis: Implementation of the proposed project could potentially result in an increase of approximately 4,850 dwelling units, thereby, increasing the student population within the MUSD. Table 5.15-1, *Projected Student Population*, provides an estimate of the student population growth associated with the proposed project. As indicated in Table 5.15-1, the potential development of 4,850 dwelling units could generate 5,571 new students.

Table 5.15-1
Projected Student Population

Increase in Residential Units	Grade Level	Student Generation Rates[1]	Number of Students Generated
4,850	K-6	0.6565	3,184
	7-8	0.1546	750
	9-12	0.3376	1,637
Total	**K-12**	N/A	**5,571**

Source: 2016 Developer Fee Justification Study, as provided by Sandy Hannah, Facilities Specialist, McFarland Unified School District, March 17, 20156

Project implementation could increase the student population, potentially contributing to the MUSD schools exceeding their designed capacities and requiring new school facilities and/or improvements to existing facilities. The degree of impacts to schools would be dependent upon the size and location of the residential development and the existing condition of the school facilities serving the area. The environmental impacts associated with the provision of new or physically altered school facilities would be dependent upon the location and nature of the facilities, and would undergo separate environmental review pursuant to CEQA Guidelines. It is noted that an elementary school has recently been constructed within the area and would serve the project area.

Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. As stated, in reviewing future annexation proposals, LAFCO would consider the likelihood of significant growth; the cost and adequacy of governmental services in the area, future need of those services, and the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change. Thus, any future development would be reviewed to ensure that adequate services would be available to serve the development being proposed at the time.

In addition, any residential development within the City would require individual assessments of potential impacts to public services, including demands on school facilities. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any increase in students associated with development of the project area would occur gradually. As part of the development review process, school districts assess Developer Fees against developments, in order to mitigate impacts resulting from the increased demand for school-related facilities and services. Therefore, impacts to school facilities would be mitigated to less than significant through payment of Developer Fees on a project specific basis. If necessary, additional mitigation would be required to reduce potential impacts to a less than significant level at the time of project specific approvals.

Mitigation Programs:

General Plan Objectives/Policies:

Objective P2: Provide adequate school sites and school site expansion to meet school facility needs in a timely manner provided by law.

Policy P2.1: Coordinate school location and site design with the school districts to ensure that adequate facilities are available.

Policy P2.3: Elementary schools should be located at collector/local street intersections that have good pedestrian and bike access. Schools should abut neighborhood parks with adjacent development backing or siding onto the school. Pedestrian and bicycle access should be provided.

Policy P2.4: Intermediate or Junior High schools should be located in residential areas with a central location for surrounding area elementary schools at collector/collector or collector/local street intersections. Additional local street frontage is desired for transition to residential areas. Maximize pedestrian and bicycle access and on/off site circulation. These schools should be located so that there are future expansion opportunities.

Policy P2.5: High Schools should be located at arterial/collector Intersections with additional frontage on at least one other street. These sights should be located for future expansion.

Policy P2.6: New commercial development should be discouraged within a minimum of a mile of school sites.

Policy P2.7: High density residential complexes abutting school sites should be discouraged.

Policy P2.8: The City, School District, and Park District shall encourage joint use of school multipurpose facilities and open space.

Policy P2.9: The Schools District shall be encouraged to coordinate their school location, facility construction and phasing with City's development guidelines contained

in the Land Use Element and the City's Capital Improvement Plan to ensure that school facilities are located In areas where there are planned and programmed streets, sewerage, storm drainage systems and other necessary infrastructure.

Policy P2.10: It is the policy of the City of McFarland that adequate school facilities be available to serve new development. In implementing this policy both the City and School District recognize that State law provides that the provision of school facilities is the exclusive responsibility of the State and the School District. However, since the potential may still exist that sources of financing, Including statutory developer fees, state and local school bond monies and other state funds will be Inadequate, and the City shall work with the School District to Identify opportunities for joint funding of recreation and community facilities at school sites.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

PARKS AND RECREATION

PSU-4 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE INCREASED USE OF PARK/RECREATIONAL FACILITIES.

Impact Analysis: Implementation of the proposed project is anticipated to result in a net increase of approximately 4,850 dwelling units, with a resultant population growth of approximately 21,052 persons. Based on the City's parkland to population requirement of 5.0 acres of parkland per 1,000 persons, future residential development within the project area could create a demand for approximately 105 acres of additional parkland. Approximately 60 acres of the project area has been identified for park use. Additional park/open space uses could also be developed as part of future residential and mixed-use developments. However, no site-specific development of park or recreational facilities are currently proposed. The environmental impacts associated with the provision of new or physically altered parks and recreational facilities would be dependent upon the location and nature of the facilities and would undergo separate environmental review pursuant to CEQA Guidelines.

Any future development would require individual assessments of potential impacts to public services, including demands on parks and recreational facilities. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any population increase associated with development of the project area would occur gradually. McFarland Municipal Code Chapter 16.34, Parks and Recreational Land Division, requires as a condition of approval of a tentative subdivision map or residential parcel within the City that the subdivider dedicate land, pay a fee in lieu thereof, or both, pursuant to the Quimby Act and pay impact fees for park and recreational purposes. Dedication of land and/or payment of fees would provide for additional park and recreational facilities to meet the demand anticipated by

the development being proposed as that time. Thus, impacts would be reduced to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies:

Policy 1-b: Reserve adequate sites in neighborhoods and unincorporated areas for future schools, parks, and other public facilities.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

LIBRARY FACILITIES

PSU-5 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SUBSTANTIAL ADVERSE PHYSICAL IMPACTS ASSOCIATED WITH THE INCREASED USE OF LIBRARY FACILITIES.

Impact Analysis: The Clara M. Jackson branch library is the only library currently serving the City of McFarland. The Clara M. Jackson branch library is not expected to undergo expansion, and additional libraries within the City are not currently planned.[27] Implementation of the proposed project could result in a growth of approximately 21,052 persons. As such, the potential demand on library facilities in the City is also anticipated to increase. Any future development would require individual assessments of potential impacts to public services, including demands on library facilities. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any population increase associated with development of the project area would occur gradually. However, in accordance with McFarland Municipal Code Chapter 16.48, Development Impact Fees, future development within the project area would be required to pay development impact fees to offset the increased demand for public facilities, such as libraries. Payment of the fees would allow the City to expand and/or develop new library facilities as the population and demand grows. As such, the proposed project would result in a less than significant impact in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

[27] Written Correspondence, Melissa Mejia, Library Associate, Clara M. Jackson branch library, Sergeant, December 17, 2015.

WATER SUPPLIES

PSU-6 SUFFICIENT WATER SUPPLIES MAY NOT BE AVAILABLE TO SERVE THE PROJECT FROM EXISTING ENTITLEMENTS AND RESOURCES; NEW OR EXPANDED ENTITLEMENTS COULD BE NEEDED.

Impact Analysis: Project implementation is anticipated to result in the future development of residential and non-residential uses within the project area. Increased development would result in increased water consumption. The City of McFarland's current annual water consumption is approximately 1,825 ac-ft, and the peak demand is estimated as 7.43 mgd.[28] The City of McFarland derives its water supply solely from its groundwater wells. According to written correspondence with the City of McFarland Public Works Department, there is sufficient groundwater available to serve the proposed project. However, provisions would need to be made to secure a water supply for purposes of complying with new groundwater sustainability regulations; refer to Mitigation Measure PSU-1.

Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. As stated, in reviewing future annexation proposals, LAFCO would consider the likelihood of significant growth; the cost and adequacy of governmental services in the area, future need of those services, and the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change. Thus, any future development would be reviewed to ensure that adequate services would be available to serve the development being proposed at the time.

Further, as stated, any future development would require individual assessments of potential impacts to public services, including increased demand for water. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any population increase associated with development of the project area would occur gradually and individual development projects would be required to demonstrate that adequate water supplies and infrastructure would be available to serve the development being proposed at that time. Impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 3: Provide for environmentally sound community development in McFarland.

Policy 3-a: Consistently analyze Environmental Review documents and submit appropriate comments.

Policy SAF-5.2: Ensure adequate water supply and water pressure is provided throughout the City for firefighting purposes.

[28] Written Correspondence, Amando Garza, City of McFarland Public Works Department, October 21, 2015.

Policy G3.2: The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue.

Policy G3.3: Annexation projects shall be contiguous to the City and be a logical extension of the City's boundary and public facilities and services. Annexation of non-contiguous areas may be allowed for industrial or commercial uses to support economic development priorities.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Project Mitigation Measures:

PSU-1 Prior to issuance of any Grading Permit, the project Applicant shall submit written confirmation, for the review and approval by the City of McFarland Public Works Department, that the project has secured water supply rights in compliance with applicable groundwater regulations in place at that time.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

WATER FACILITIES

PSU-7 PROJECT IMPLEMENTATION WOULD RESULT IN THE CONSTRUCTION OF NEW WATER FACILITIES OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Impact Analysis: Existing water mains and gate valves are located along the northerly edge of the proposed project site, along Taylor Avenue and Sherwood Avenue; however, there are no other known City water facilities within the project area. New water infrastructure facilities would be required to serve future residential, commercial, mixed-use, office, industrial, public and institutional development within the project area. Water facilities would include water distribution systems and appurtenances, metered services, municipal water supply wells, storage tanks, and booster pump stations. The sizing and capacity of these facilities would be verified by the City upon review of final plans and specifications as part of the City's standard plan review and approval process to ensure adequate facilities are provided, including minimum fire flow requirements, as determined by KCFD. Mitigation Measure PSU-2 requires appropriate connection points, looping, and sizing of pipelines and service connections be provided in order to ensure that water can be adequately conveyed to the specific development for domestic and fire flow uses. All water facility improvements associated with the project would consist of local pipelines within and immediately surrounding the project site. Upon implementation of recommended mitigation, impacts in this regard would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures:

PSU-2 Prior to building permit issuance, the project applicant shall demonstrate to the City of McFarland Public Works Department that the proposed connection points have been sized to provide full service within the project site based upon the appropriate piping size that would be able to convey the maximum day demand plus the required fire flow determined by the City of McFarland Public Works Department.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

WASTEWATER FACILITIES

PSU-8 PROJECT IMPLEMENTATION COULD REQUIRE OR RESULT IN THE CONSTRUCTION OF NEW WASTEWATER CONVEYANCE/TREATMENT FACILITIES OR EXPANSION OF EXISTING FACILITIES, THE CONSTRUCTION OF WHICH COULD CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS.

Impact Analysis: There are currently wastewater collection lines located in the western portion of the project area, along Taylor Avenue, Mast Avenue, and local residential streets in the residential neighborhood to the south of Taylor Avenue. The rest of the project site is not currently connected to the City's wastewater collection system. As such, future development within the project area would require additional collection, treatment, and disposal facilities to convey wastewater to the WWTP from the project site.

Table 5.15-2, *Project Wastewater Generation Flows*, provides an estimate of the wastewater flow associated with the proposed project. As indicated in Table 5.15-2, the increased wastewater flow resulting from project implementation would be approximately 3.36 mgd. The City's existing WWTP currently collects and treats approximately 1.1 mgd, and will be expanded from 1.55 mgd to 2.5 mgd. However, as the project would generate wastewater flows of approximately 3.36 mgd, the City's expanded WWTP (2.5 mgd) would not be able to accommodate the proposed project's wastewater flows. As such, future wastewater connections and treatment facilities would be required as a result of the proposed project.

Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. As stated, in reviewing future annexation proposals, LAFCO would consider the likelihood of significant growth; the cost and adequacy of governmental services in the area, future need of those services, and the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change. Thus, any future development would be reviewed to ensure that adequate services would be available to serve the development being proposed at the time.

Further, as stated, any future development would require individual assessments of potential impacts to public services, including the need for wastewater facilities. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any population increase associated with development of the project area would occur gradually and individual development projects would be required to demonstrate that adequate

wastewater conveyance and treatment are available to serve the proposed development at that time. Individual project applicants would also be required to pay development impact fees in place at the time of the development in accordance with McFarland Municipal Code Chapter 16.48. Thus, impacts would be less than significant in this regard.

Table 5.15-2
Project Wastewater Generation Flows

Land Use	Acres		Wastewater Flow Generation (GPAD)[1]	Average Flow (mgd)	
	East	West		East	West
Single Family Residential	116.2	488.4	2,750	0.27	1.14
Multi-Family Residential	49.1	18.7	4,000	0.17	0.06
Mixed-Use (60% Residential/ 40% Commercial)	-	251.7	-	-	-
Residential	-	151.02	4,000	0.00	0.51
Commercial	-	100.68	2,000	0.00	0.17
Office	32.7	-	1,500	0.04	0.00
Highway Commercial	-	94.6	2,500	0.00	0.20
Commercial	62.1	-	2,000	0.11	0.00
Light Industrial	408.4	-	500	0.17	0.00
Industrial	560.4	-	1,000	0.48	0.00
Park	21.2	38.1	200	0.00	0.01
School	-	38.1	750	0.00	0.02
			Total Flow	1.24	2.12

Notes:
1. The unit wastewater flow generation are applied to a reduced land Area at 85% of the gross land area to account for public roads and public infrastructure needs.

Source: Written Correspondence, Amando Garza, City of McFarland Public Works Department, October 21, 2015.

Mitigation Programs:

General Plan Objectives/Policies:

Objective 3: Provide for environmentally sound community development in McFarland.

Policy 3-a: Consistently analyze Environmental Review documents and submit appropriate comments.

Policy G3.2: The City shall not approve annexation project applications for new land until a fiscal impact analysis is submitted to the City to determine the costs of providing services to the annexed parcel versus anticipated revenue.

Policy G3.3: Annexation projects shall be contiguous to the City and be a logical extension of the City's boundary and public facilities and services. Annexation of non-contiguous areas may be allowed for industrial or commercial uses to support economic development priorities.

Policy G4.3: Monitor planning and environmental assessments for development projects in adjacent jurisdictions and participate in public hearings for the process.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

SOLID WASTE

PSU-9 THE PROJECT WOULD NOT RESULT IN SIGNIFICANT IMPACTS RELATED TO SOLID WASTE LANDFILL CAPACITIES AND WOULD NOT CONFLICT WITH FEDERAL, STATE, OR LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE.

Impact Analysis: Table 5.15-3, *Project Solid Waste Generation*, quantifies the project's estimated solid waste generation. As shown, the project's estimated solid waste generation is 376,489 tons per year. The Shafter-Wasco landfill currently serves the project area, and currently has a total maximum daily permitted throughput of 1,500 tons per day, and a remaining capacity of 7,901,339 cubic yards (or 5,932,303 tons).[29] The expected closure date for the Shafter-Wasco landfill is December 31, 2053. As shown in Table 5.15-3, the project's projected solid waste generation (376,489 tons per year, or 1,031 tons per day) represents approximately 69 percent of the Savage Canyon Landfill's maximum daily permitted throughput. Future development associated with implementation of the proposed project could potentially result in the need for additional landfill facilities. However, the City would have access to the Kern County Waste Management's other landfills in the area (Bena, Boron, Mojave-Rosamond, Ridgecrest, Taft, and Tehachapi) to accommodate increased solid waste in the City, including the proposed project.

Table 5.15-3
Project Solid Waste Generation

Facility Description	Proposed Development (SF)[3]	Proposed Development (DU)[3]	Generation Rate[1] (lbs/du/day Generation (lbs/day/square feet)[2]	Generation (tpy)[3]
Low Density	-	3,629	12.23 lbs/du/day	80,998
Medium Density	-	1,221	12.23 lbs/du/day	27,252
Professional Office	712,642		6 lbs/1,000 square feet/day	7,803
Commercial	676,269		5 lbs/1,000 square feet/day	6,171
Highway Commercial	1,029,650		5 lbs/1,000 square feet/day	9,396
Mixed-Use	5,482,244		6 lbs/1,000 square feet/day	60,031
Light Industrial	7,115,613		6 lbs/1,000 square feet/day	77,916
Heavy Industrial	9,764,584		6 lbs/1,000 square feet/day	106,922
Public and Institutional	-	-	-	-
Total	***24,781,002***	***4,850***		***376,489***

Notes:
1. CalRecycle, *Estimated Solid Waste Generation and Disposal Rates*, http://www.calrecycle.ca.gov/wastechar/wastegenrates/.
2. Lbs/du/day = Pounds per Day per Dwelling Unit; and lbs/day/square feet = Pounds per Day per 1,000 Square Feet.

[29] Cal Recycle, *Shafter-Wasco Recycling & Sanitary LF (15-AA-0057)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/15-AA-0057/Detail/, accessed November 20, 2015.

As stated, any future development would require individual assessments of potential impacts to public services, including the increased generation of solid waste. Development within the project area would occur in incremental phases over time, based largely on economic considerations, market demand, and other planning consideration. The phasing and exact details of each development project would be evaluated by the City on a case-by-case basis. Thus, any population increase associated with development of the project area would occur gradually and individual development projects would be required to demonstrate that adequate solid waste facilities are available to serve the proposed development at that time. Individual project applicants would also be required to pay development impact fees in place at the time of the development in accordance with McFarland Municipal Code Chapter 16.48. Thus, impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

DRY UTILITIES

PSU-10 THE PROJECT WOULD NOT RESULT IN SIGNIFICANT IMPACTS TO OTHER PUBLIC FACILITIES.

Impact Analysis:

Electricity

The majority of the project area is comprised of vacant land and is not served by an electrical provider. However, on-site rural residential uses, and a small portion of the site (to the south of Taylor Avenue and west of SR-99) are served by Southern California Edison (SCE). Future development at the project site would also be served by SCE. New SCE facilities may create the need for transmission and service infrastructure to be relocated prior to site excavation and project construction. SCE would update existing facilities and/or add new facilities in the project area based upon specific requests for service from end users. Financial responsibility for any updates or additional facilities would be in accordance with SCE's rules and tariffs. All new development that requires new electricity lines to be installed would be required to pay applicable fees assessed by SCE to extend electricity lines to serve the specific development.

Based on the California Emissions Estimator Model (CalEEMod) assumptions for SCE, the proposed project would require approximately 291,993 MWh of electricity per year at buildout. However, the project would be subject to compliance with the energy conservation standards set forth in California Administrative Code Title 24, Part 6, Article 2. Therefore, through compliance with Title 24 requirements, the project's actual electrical demand would likely be less than 291,993 MWh per year, which is considered a conservative estimate.

Future development project's would be required to comply with all policies, extension rules, and pay applicable fees assessed by SCE to extend electricity lines to serve the proposed uses.

SCE would not provide service to new developments if there were not adequate electricity supplies and infrastructure to maintain existing service levels and meet the anticipated electricity demands of the specific development requesting service. Before the issuance of any Grading Permits, the project Applicant would coordinate with SCE to determine the exact location of the electrical facilities. Therefore, the project would not have a significant impact on SCE's capacity to provide electrical power services to the service area, and proposed electrical facilities would have a less than significant impact in this regard.

Natural Gas

The project site is located within a rural area of the City, which is currently served by Southern California Gas Company (SCGC) through existing natural gas infrastructure. Development of the project would require new infrastructure/gas main extensions, and future project applicants would be required to pay any applicable fees assessed by SCGC necessary to accommodate development at the project site.

SCGC has gas facilities in the vicinity of the proposed project. Thus, gas service to the proposed project can be provided from existing gas mains in several locations, and any new service would be conducted in accordance with the SCGC's policies and extension rules on file with the CPUC when contractual agreements are made. Natural gas service provided would be required to comply with all policies and extension rules of SCGC when contractual arrangements are made with the development applicant. SCGC would not allow new development projects to connect to existing gas mains unless the system could maintain adequate service and supply to existing customers and meet the anticipated demands of the project requesting service.

Although the proposed project would create additional demands on natural gas supplies and distribution infrastructure, these demands are within the service capabilities of SCGC. Thus, the proposed project would not create additional demands on natural gas supplies and infrastructure that exceed the capacity of the utilities serving the site. Therefore, impacts would be less than significant in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.15.5 CUMULATIVE IMPACTS

FIRE PROTECTION SERVICES

PSU-11 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH DEVELOPMENT ANTICIPATED BY THE GENERAL PLAN COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO FIRE PROTECTION SERVICES AND FACILITIES.

Impact Analysis: As discussed above, the project would result in increased demands on the KCFD's fire protection services. The project does not propose site-specific development, including new or physically altered fire protection facilities. The KCFD confirmed that current staffing levels and facilities are adequate to serve the project site, and the project would not create a demand for physical additions to existing stations or construction of new fire stations within the next few years. However, as noted by the KCFD, the need for new fire stations and staffing would be required to meet target response times as the County's population continues to grow in the next five to seven years.[30]

Development proposed at the project site and cumulative development in the area would be reviewed as part of the City's development review process on a case-by-case basis in order to adequately identify potential impacts to fire protection services and facilities and determine if additional staffing and facilities are needed to serve the development being proposed at that time. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. Thus, any increase in demand for fire protection services would occur gradually, as additional development occurs within the City. Therefore, a less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

POLICE PROTECTION SERVICES

PSU-12 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH DEVELOPMENT ANTICIPATED BY THE GENERAL PLAN COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO POLICE PROTECTION SERVICES AND FACILITIES.

Impact Analysis: As concluded above, the project would result in increased demands on the City's police protection services. However, the McFarland Police Department has indicated that they would be able to serve the proposed project, and would not require physical additions to police protection facilities. In addition, future development as a result of the project would be required to undergo environmental review, and determine potential impacts to the McFarland Police Department services.

When viewed in conjunction with development of the General Plan, the increased demand for police protection services could be cumulatively significant. The degree of significance would depend upon the location and nature of the project, and the current availability of police protection resources. All future residential and non-residential development within the City would be reviewed on a project-by-project basis to ensure that adequate police protection services are available to meet the increased demands. Additionally, individual projects would be required to comply with conditions of approval set forth by the City and any recommended

[30] Ibid.

mitigation applicable to the project, as well as the City's General Plan Policies and development standards. Therefore, cumulative impacts to police protection services, which would be reviewed on a project-by project basis and in accordance with the City's Municipal Code and General Plan Policies, and LAFCO review procedures would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

SCHOOLS

PSU-13 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH DEVELOPMENT ANTICIPATED BY THE GENERAL PLAN COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO SCHOOL FACILITIES AND SERVICES.

Impact Analysis: As discussed above, the project would result in a school population (K-12) of approximately 5,571 students. As such, it is possible that the project could potentially contribute to the MUSD schools exceeding their designed capacities and requiring new school facilities and/or improvements to existing facilities. The environmental impacts associated with the provision of new or physically altered school facilities would be dependent upon the location and nature of the facilities, and would undergo separate environmental review pursuant to CEQA Guidelines. As concluded above, impacts on school services and facilities resulting from project implementation are considered less than significant following payment of Developer Fees on a project specific basis.

When viewed in conjunction with additional development anticipated by the General Plan, the increased demand for school services and facilities within the MUSD, could be cumulatively significant. The degree of significance would depend upon the location and density of the project, and the current enrollment and capacity of the respective school facility. Future development associated with the proposed project and development of the General Plan would occur over several years based upon market conditions and other development factors. Future development would be reviewed to ensure adequate school facilities are available to serve new students. Cumulative impacts to school facilities would be mitigated to less than significant through payment of Developer Fees on a project-by-project basis. A less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

PARKS AND RECREATION

PSU-14 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH DEVELOPMENT ANTICIPATED BY THE GENERAL PLAN COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO PARKS AND RECREATIONAL FACILITIES.

Impact Analysis: As discussed above, the project would result in greater demands on the City's parks/recreational services and facilities. However, the project has identified approximately 60 acres for park use, and future development within the project area would likely involve the development of additional park and open space uses. McFarland Municipal Code Chapter 16.34, Parks and Recreational Land Division, requires as a condition of approval of a tentative subdivision map or residential parcel within the City that the subdivider dedicate land, pay a fee in lieu thereof, or both, pursuant to the Quimby Act and pay impact fees for park and recreational purposes. The environmental impacts associated with the provision of new or physically altered parks and recreational facilities would be dependent upon the location and nature of the facilities and would undergo separate environmental review pursuant to CEQA Guidelines.

Although cumulative development in the City would similarly result in increased demands on existing parks/recreational services and facilities, each cumulative project would be reviewed on a case-by-case basis to determine the availability of park and recreation facilities to serve the proposed development. In addition, new residential developments would be required to dedicate land, pay a fee in lieu thereof, or both, for parks and recreational areas to meet the anticipated demand of development being proposed as that time. Thus, the combined cumulative impacts to parks and recreational services and facilities associated with the project's incremental effects and those of the cumulative projects would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

LIBRARY FACILITIES

PSU-15 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION COMBINED WITH DEVELOPMENT ANTICIPATED BY THE GENERAL PLAN COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO PARKS AND RECREATIONAL FACILITIES.

Impact Analysis: As discussed above, the project could result in greater demands on the City's library facilities. However, future development within the project area would occur in incremental phases over time, and require individual assessments of potential impacts to public services, including demands on library facilities. In addition, the project is subject to compliance with Municipal Code Chapter 16.48, which requires payment of a fee to offset the increased demand for public facilities, such as libraries. Although cumulative development would similarly

result in increased demands on existing library facilities, each cumulative project would be reviewed on a case-by-case basis to determine the availability of resources to serve the proposed development. Individual projects would be required pay development impact fees in place at the time to ensure potential impacts associated with the demand for library facilities are less than significant. Thus, the combined cumulative impacts to library facilities associated with the project's incremental effects and those of the cumulative projects would be less than significant.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

WATER SUPPLIES AND FACILITIES

PSU-16 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT COULD CUMULATIVELY IMPACT WATER SUPPLIES AND SYSTEMS.

Impact Analysis: As discussed above, the proposed project would increase the City's overall water consumption, and require new water supply facilities to serve the project's new land uses and residential population. However, the City has determined that sufficient water supply would be available for the proposed project, and the project would be required to secure water supply rights in compliance with new groundwater regulations (refer to Mitigation Measure PSU-1). In addition, appropriate water connections, sizing of pipelines, and service connections would be required in compliance with Mitigation Measure PSU-2. Compliance with Mitigation Measures PSU-1 and PSU-2 would result in a less than significant impact with regard to water supply and water facilities.

The proposed project, in combination with other development projects in the City, would create additional water demand for the City and its residents. However, water availability would be determined on a project-by-project basis, and new development would not be approved if adequate water supplies were unavailable to serve the development proposed at that time. Compliance with new groundwater regulations would allow for adequate recharge of the City's groundwater supply, and ensure sufficient capacity for cumulative development projects. Impacts to water resources would be less than significant with implementation of water conservation and recharge programs.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: Refer to Mitigation Measures PSU-1 and PSU-2.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies and Mitigation Incorporated.

WASTEWATER FACILITIES

PSU-17 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT AND OTHER RELATED DEVELOPMENT COULD REQUIRE OR RESULT IN THE CONSTRUCTION OF NEW WASTEWATER CONVEYANCE/TREATMENT FACILITIES OR EXPANSION OF EXISTING FACILITIES.

Impact Analysis: As discussed above, the proposed project's wastewater flows (3.36 mgd) would be more than the capacity of the City's expanded WWTP (2.5 mgd), and would require additional collection, treatment, and disposal facilities. Future development within the project area would occur over time based on market conditions allowing for the planning and provision of additional facilities as needed. Further, future development would be required to pay impact development impact fees as part of Municipal Code Chapter 16.48 to allow for construction of new wastewater treatment facilities.

The increased demand for wastewater conveyance and treatment facilities resulting from cumulative development in the City and proposed project could be cumulatively significant. The degree of significance would depend upon the scale and location of the project, and timing of connection to the sewerage system. All future residential and non-residential development within the City would be reviewed on a project-by-project basis to determine the availability of adequate treatment capacity along with the continuous assessment of capacity flows. Individual development projects would be required to verify that existing capacity exists to convey and treat the potential wastewater generated with the new development. In addition, development projects would be subject to payment of fees prior to connecting to the City's facilities. Compliance with the City's development review process, including the provision of new conveyance systems, and payment of impact development fees would reduce potential cumulative impacts to wastewater facilities to a less than significant level.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

SOLID WASTE

PSU-18 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION AND OTHER RELATED DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO THE PERMITTED CAPACITIES OF THE LANDFILLS SERVING THE CITY.

Impact Analysis: As discussed above, solid waste generation from the proposed project is estimated to be approximately 1,031 tons per day (376,489 tons per year). This represents approximately 69 percent of the Shafter-Wasco landfill's remaining capacity. Increased development anticipated by the proposed project and related cumulative development may result in the need for additional landfill facilities. However, the City would have access to the

Kern County Waste Management's other landfills in the area (Bena, Boron, Mojave-Rosamond, Ridgecrest, Taft, and Tehachapi) to accommodate increased solid waste in the City. In addition, implementation of source reduction measures would be required on a project-by-project basis and plans such as those for recycling would partially address landfill capacity issues by diverting additional solid waste at the source of generation. Future development within the City would require individual assessments of potential impacts to public services, including the increased generation of solid waste. In addition, each cumulative project would be required to comply with all applicable Federal, State, and local statutes and regulations related to solid waste. This includes compliance with AB 939, which requires a 50 percent diversion of all solid waste from disposal in local landfills, and McFarland Municipal Code 16.48 (payment of impact fees for public facilities). A less than significant impact would occur in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

ELECTRICITY AND NATURAL GAS

PSU-19 DEVELOPMENT ASSOCIATED WITH PROJECT IMPLEMENTATION AND OTHER RELATED DEVELOPMENT COULD RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO ELECTRICITY AND NATURAL GAS SERVICE IN THE CITY.

Impact Analysis: As concluded above, SCE and SCGC would be able to serve the development anticipated by the proposed project. The project and cumulative development associated with buildout of the General Plan would result in increased demand on electricity and natural gas service within the City. Individual development projects would be reviewed on a project-by-project basis to determine the associated demand on electricity and natural gas services and the facilities necessary to meet that demand. Individual projects would be required to comply with Title 24 energy conservation standards and applicable regulations and fees established by the CPUC. Individual development projects would only be approved if adequate services were available to meet the associated demand. Therefore, impacts would not cumulatively considerable in this regard.

Mitigation Programs:

General Plan Objectives/Policies: Refer to the General Plan Objectives/Policies outlined above.

Project Mitigation Measures: No additional mitigation is required.

Level of Significance: Less Than Significant Impact with General Plan Objectives/Policies Incorporated.

5.15.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Impacts to public services and utilities associated with implementation of the proposed project would be less than significant with adherence to and/or compliance with the General Plan objectives and policies, City of McFarland Municipal Code, and recommended mitigation measures. No significant unavoidable impacts to public services and utilities would occur as a result of project implementation.

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SECTION 6.0
Other CEQA Considerations

6.0 OTHER CEQA CONSIDERATIONS

6.1 LONG-TERM IMPLICATIONS TO THE PROPOSED PROJECT

The development anticipated by the proposed project would involve various short- and long-term impacts on a local level. During site-specific project grading and construction, portions of surrounding uses may be temporarily impacted by dust and noise, and short-term soil erosion may occur. There may also be an increase in vehicle pollutant emissions caused by grading and construction activities. However, these disruptions would be temporary and may be avoided or lessened to a large degree through mitigation cited in this EIR; refer to Section 5.0, *Environmental Analysis*.

The project's anticipated development would create long-term environmental consequences associated with transitions in land use. The anticipated development and subsequent long-term effects could impact the physical, aesthetic, and human environments. Long-term physical consequences of the anticipated development include increased traffic volumes, increased noise from project-related mobile (traffic) and stationary (mechanical and landscaping) sources. Incremental degradation of local and regional air quality could also occur as a result of mobile source emissions generated from Project-related traffic and stationary sources generated from the consumption of propane and electricity.

6.2 IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Specifically, Section 15126.2(c) states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

The project would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during construction of individual projects and would continue throughout their operational lifetime. Project development would require a commitment of resources that would include: (1) building materials, (2) fuel and operational materials/ resources, and (3) the transportation of goods and people to and from the project area.

Construction would require the consumption of resources that are not replenishable or that may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: lumber and other forest products; aggregate materials used in concrete and asphalt; metals; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment.

The resources that would be committed during operation of future development consistent with the proposed General Plan Amendment (GPA) would be similar to those currently consumed within the City of McFarland. These would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of future developments, and the existing, finite supplies of these natural resources would be incrementally reduced. Project construction and operation would occur in accordance with the 2013 Building Energy Efficiency Standards (Title 24, Part 1, Chapter 10 and Part 6, and affected provisions in Part 11 [Cal. Green Building Standards Code]), which will take effect July 1, 2014 and set forth conservation practices intended to limit the Project's energy consumption. However, the project's energy requirements would, nonetheless, represent a long-term commitment of essentially non-renewable resources.

Limited use of potentially hazardous materials typical of residential, commercial, office, industrial, and public and institutional uses, including household and vehicle maintenance materials would potentially be used and stored on individual sites. The use of these materials would be in small quantities and used, handled, stored, and disposed of in accordance with the manufacturer's instructions and applicable government regulations and standards. Compliance with these regulations and standards would serve to protect against significant and irreversible environmental change resulting from the accidental release of hazardous materials. In addition, potential demolition activities would comply with regulatory requirements to ensure that asbestos and lead-based paints are not released into the environment. Compliance with such regulations would serve to protect against a significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, potential project construction and operation consistent with the proposed GPA would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resource quantities for future generations or for other uses during the life of the project. However, continued use of such resources would be consistent with local and regional growth forecasts for the area. As such, although irreversible environmental changes would result from the project, such changes would not be considered significant.

6.3 GROWTH-INDUCING IMPACTS

CEQA Guidelines Section 15126(d), *Growth Inducing Impact of the Proposed Project*, requires that an EIR *"discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."* The CEQA Guidelines also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes potential growth-inducing impacts, based on the criteria outlined below, as suggested by the CEQA Guidelines. In general terms, a project may foster spatial, economic, or population growth in a geographic area, if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service and provision of new access to an area);
- Fostering economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering population growth (e.g., construction of additional housing), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. The Project's potential growth-inducing impacts are evaluated below against these criteria. It is noted that the *CEQA Guidelines* require an EIR to "discuss the ways" a project could be growth-inducing and "discuss the characteristics of some projects that may encourage…activities that could significantly affect the environment." However, the *CEQA Guidelines* do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages; see *CEQA Guidelines* Section 15145, *Speculation*.

IMPEDIMENT TO GROWTH

The project's anticipated development is likely to occur on both undeveloped and/or underutilized land throughout the City, however, primarily within the southern portion of the City and the City's sphere of influence (SOI). As discussed in detail in Section 3.0, the proposed GPA would change existing General Plan land use designations for several properties located within the City limits and the Land Use Map would be amended in order to assign land use designations to approximately 1,978 acres. The portion of the project area within the City limits is already served by essential public services (i.e., fire and police protection, parks and recreational facilities, schools, and solid waste disposal), an extensive network of utility/service systems (i.e., water, wastewater, electricity, and natural gas), and other infrastructure necessary to accommodate/allow the existing conditions and planned growth. Thus, development within this area of the City would not remove an impediment to growth.

The portion of the project area within the SOI is rural with limited development. It is located adjacent to the southernmost portion of the City, which is primarily developed. The project does not currently propose site-specific development on any site within the City or SOI. A SOI describes the City's probable physical boundaries and service area and can therefore be used as a benchmark for the maximum extent of the City's future service area. It defines the primary area within which urban development is to be encouraged. The City's General Plan can address how land in the SOI is planned for and developed in anticipation of future annexation; however, land use jurisdiction over the SOI remains with the County. There are currently no annexation proposals for any land within the SOI. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. In reviewing future annexation proposals, LAFCO would consider several factors including, but not

limited to population and population density and the likelihood of significant growth in the area and in adjacent incorporated areas during the next 10 years; the need for need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas; the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change; the extent to which the proposal will affect a city or cities, and the county in achieving their respective fair shares of the regional housing needs; and any information relating to existing land use designations. Thus, any future development would be reviewed to ensure that the proposed development would be consistent with the City's General Plan and that adequate services would be available to serve the development being proposed at the time.

Although the area is served by public services (fire, police, schools), utilities systems would likely need to be constructed and/or expanded to serve future development within this portion of the project site. It is anticipated that existing public services and utility/service systems can be readily upgraded and/or extended onto the future development sites. Each individual development would be reviewed on a project-by-project basis to determine the public services and utility/service systems necessary to support the proposed land uses. The increased demands for public services and utility/service systems would not reduce or impair any existing or future levels of services, within the respective service areas, as concluded in Section 5.15. Further, the costs associated with providing future development with public services and utility/service systems would be offset through collection of development impact fees, which would be imposed on applicants seeking to construct development projects. Such fees are intended to minimize, to the greatest extent practicable, a new development's impact on public services and utility/service systems. Toward that end, applicants for such development projects would pay their fair share of the costs of providing such public services and utility/service systems, or enter into cooperative agreements with servicing agencies. Project implementation would not require substantial development of unplanned or unforeseen public services and utility/service systems.

Therefore, project implementation would not foster spatial growth or remove an impediment to growth by establishing an essential public service. As the project area is within City limits and/or the SOI, it anticipates the potential for future growth and development.

ECONOMIC GROWTH

As indicated in Table 5.2-7, *Project Compared to Existing Conditions*, the Project could increase the City's existing population by approximately 166 percent (21,052 persons). The projected population growth is anticipated to increase sales, with resultant increases in the City's revenue base. Additionally, the project would increase the City's non-residential development by approximately 61,474,000 square feet and employment by approximately 86 percent (21,179 new jobs); refer to Table 5.2-7. The projected growth in non-residential development and employment would foster economic expansion through changes in the revenue base resulting from increased population and employment. The project would provide improved opportunities allowing for McFarland to progress as an economically sustainable community. Therefore, the project is considered growth inducing with respect to economic expansion.

POPULATION GROWTH

A project could induce population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). As concluded in Section 5.2, project implementation would not induce population growth indirectly, through extension of roads or other infrastructure; refer also to Section 5.4, and Impediment to Growth Section above. The project would however, induce population growth in the project area directly through new residential land uses. The project anticipates the development of approximately 4,849 dwelling units, which would increase the City's population by approximately 166 percent (21,052 persons); refer to Table 5.2-7. By 2040, the City's housing stock is anticipated to total 7,525 dwelling units, with a resultant population of 33,711 persons.

As also discussed in Section 5.2, the project could induce population growth in the project area directly through new employment-generating land uses, since the potential exists that future employees (and their families) would choose to relocate to the area. Estimating the number of these future employees who would choose to relocate would be highly speculative, because many factors influence personal housing location decisions. Therefore, the precise number of new employees who may relocate to the City to fill the newly created positions is unknown. However, as discussed above, the proposed project would potentially increase the City's existing housing inventory by 4,849 dwelling units in the project area, which could be occupied by new employees relocating to the City. The population growth associated with these new dwellings is approximately 21,052 persons. Additionally, the vacancy rates of McFarland and surrounding cities range from 3.1 to 7.7 percent; refer to Section 5.2. Collectively, the existing vacancies amount to approximately 10,943 dwelling units, which could also be occupied by new employees, with resultant increases in population. Therefore, the proposed project is considered growth inducing with respect to direct population growth, given it would involve the development of both new homes and businesses.

Potential growth inducing impacts are also assessed based on a project's consistency with adopted plans that have addressed growth management from a local and regional standpoint. As discussed in Section 5.2, Kern Council of Governments (Kern COG) is the responsible agency for developing and adopting regional housing, population, and employment growth forecasts for local Kern County governments. Kern COG provides population, household, and employment projection estimates in five-year increments from 2000 to 2035, and 2050. Table 5.2-8, *Project Compared to Kern COG*, compares the proposed project's projections with Kern COG's 2040 household, population, and employment forecasts for the City. As indicated in Table 5.2-8, Kern COG projects that the City's housing inventory would reach 3,612 dwelling units by 2040, with a resultant population of approximately 20,800 persons. At buildout (2040), the proposed project would result in a housing inventory of approximately 4,849 dwelling units, with a resultant population of approximately 21,052 persons. Although the project area's population would be (approximately 25 percent) greater than projected by Kern COG, the forecast growth would occur over the next 25 year period to approximately year 2040. Given Kern COG is required to adopt and submit an updated Regional Transportation Plan (RTP) to the California Transportation Commission and Caltrans every four or five years, the proposed project would be integrated into the next RTP's future growth forecasts.

Overall, the project would induce direct population growth through development of residential uses, and could induce population growth through development of employment generating land

uses. Therefore, the project is considered growth inducing with respect to fostering population growth within the project area.

PRECEDENT-SETTING ACTION

The proposed project's major components include a GPA which would amend the Land Use Element of the McFarland's General Plan to add two new land use designations, establish new policies and objectives associated with the new land use designations and other development within the planning area, and amend the Land Use Map to assign land uses to specific areas within the SOI and change existing land use designations for several properties within the City boundaries. The GPA involves the creation of new mixed-use and highway commercial land use designations and supporting policies and objectives. The new Mixed-Use (MU) land use designation would allow for the development of a mix of residential, office, and retail uses in appropriate areas at a density between 16 to 24 units per acre, and the new Highway Commercial (HC) land use designation provides for localized concentrations of uses catering to the traveling public including service stations, hotels, restaurants, or other visitor-serving uses, located at major intersection of the community. All future land uses within the project area would be developed pursuant to the proposed Land Use Map and development standards. Future development projects would undergo environmental review pursuant to CEQA Guidelines on a project-by-project basis, in order to establish consistency with the new land use designations and the new Land Use Map. Although the project proposes new land use designations, the types of uses and development potential would support the City's goals to become a more economically sustainable community by providing increased employment opportunities and providing a variety of housing to serve the needs of the community. The General Plan would also include objectives and actions to ensure that the overall character of the community is maintained and that future development is compatible and further enhances the community.

DEVELOPMENT OR ENCROACHMENT OF OPEN SPACE

As described in Section 3.0, the GPA would change existing General Plan land use designations for several properties located within the City limits. For most of these properties, the proposed land use designations would reflect development that already occurs within the site(s). For the remaining properties within the City, the proposed land use changes would guide future growth, development, and redevelopment of primarily undeveloped and underutilized parcels within the City. This would not result in development or encroachment of open space.

None of the properties associated with the proposed project are designated Open Space or would encroach on an isolated or adjacent area of open space. However, new development projects would undergo environmental review pursuant to CEQA Guidelines on a project-by-project basis, in order to determine the secondary impacts to open space. Therefore, the proposed project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of open space.

The project does not currently propose site-specific development on any site within the City or SOI. A SOI describes the City's probable physical boundaries and service area and can therefore be used as a benchmark for the maximum extent of the City's future service area. It defines the primary area within which urban development is to be encouraged. The City's General Plan can address how land in the SOI is planned for and developed in anticipation of

future annexation; however, land use jurisdiction over the SOI remains with the County. There are currently no annexation proposals for any land within the SOI. Any future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO. These areas are not designated as open space; however, they are primarily rural with limited agricultural activity. In reviewing future annexation proposals, LAFCO would consider several factors including, but not limited to population and population density and the likelihood of significant growth in the area and in adjacent incorporated areas during the next 10 years; the need for need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas; the ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change; the extent to which the proposal will affect a city or cities, and the county in achieving their respective fair shares of the regional housing needs; and any information relating to existing land use designations. Thus, future development and associated annexation would be reviewed to ensure the proposed development would be consistent with the City's General Plan and that adequate services would be available to serve the development being proposed at that time. Further, LAFCO would ensure the extension of development into the area is logical and enhances the overall goals of the region.

SUMMARY OF IMPACTS

The population, housing, and employment growth projected at buildout of the proposed project would be substantially greater than the SCAG's projections for the City. However, as Kern COG is required to adopt and submit an updated RTP to the California Transportation Commission and Caltrans every four or five years, the proposed project would be integrated into the next RTP's future growth forecasts. Further, the forecast population increase would occur over a 25-year period, allowing for development of necessary services and infrastructure commensurate with the proposed growth.

At the regional level, the emphasis regarding growth has been placed primarily on achieving a balance of employment and housing opportunities within the region. This regional concept, referred to as jobs/housing balance, encourages the designation and zoning of sufficient vacant land for residential uses with appropriate standards to ensure adequate housing is available to serve the needs derived from the local employment base. The jobs/housing ratio can be used as the general measure of balance between a community's employment opportunities and the housing needs of its residents. A ratio of 1.0 or greater generally indicates that a City provides adequate employment opportunities, potentially allowing its residents to work within the City. A desirable jobs/housing balance improves regional mobility (traffic), reduces vehicle miles traveled, and improves air quality. Conversely, imbalance between a City's jobs and housing increases commutes, with resultant increases in traffic volumes and air emissions, and overall reduces the quality of life.

Under existing conditions, the City's jobs/housing ratio is approximately 1.17, indicating the City is currently sufficient with employment opportunities for its residents. The proposed project would increase the City's existing housing stock by 166 percent (4,849 dwelling units) and employment by approximately 619 percent (21,179 new jobs). With implementation of the proposed project, the City's jobs/housing ratio would be approximately 4.37, indicating the

proposed project would improve the City's jobs/housing balance by providing more employment opportunities for residents to potentially work in the area. As such, the proposed project would provide more employment opportunities for its residents, than are currently provided. Therefore, the proposed project would beneficially impact the City's job/housing balance, by improving the job/housing ratio when compared to existing conditions. Further, the project would improve the economic sustainability of the City and provide a variety of housing options to meet the needs of the residents. While the proposed project would induce growth in the City over existing conditions, this is considered a beneficial impact.

6.4 ENERGY CONSERVATION

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Appendix F requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the California State Legislature adopted Assembly Bill 1575 (AB 1575) in response to the oil crisis of the 1970s.

PROJECT ENERGY CONSUMPTION

Short-Term Construction

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NOX emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NOX and 40 percent for particulate matter from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Non-road Diesel Rule which will cut emissions from off-road diesel engines by more than 90 percent, and will be fully phased in by 2014.

The project would not directly result in the construction of any new development projects. However, its implementation would facilitate development of various residential, commercial, office, industrial, and public and institutional uses. The project involves no unusual characteristics that would necessitate the use of construction equipment that is less energy-efficient than at comparable construction sites. Therefore, it is expected that construction-related fuel consumption associated with future development consistent with the proposed GPA would not result in inefficient, wasteful, or unnecessary fuel consumption.

Long-Term Construction

TRANSPORTATION

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 26.5 miles per gallon (mpg). The fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg since 1996. Heavy duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each

manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

The project would establish a mixed-use land use designation, allowing for the placement of residential and non-residential development on the same site. Mixed-use development encourages alternative modes of transportation and reduces the need for an automobile as services are available in proximity to residents. Further, the project proposes General Plan Policies and Objectives that encourage human-scale urban design of neighborhoods to encourage a pedestrian-friendly street environment that encourages walking and bicycling. Goals encourage transit-oriented and mixed-use developments, including higher density residential, commercial, and employment uses in proximity to one another.

Overall, fuel consumption associated with vehicle trips generated by future development within McFarland would not be considered inefficient, wasteful, or unnecessary in comparison to other cities in the region.

ENERGY DEMAND

California Code of Regulations, *Title 24*, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2010, the CEC updated Title 24 standards with more stringent requirements. The 2010 Standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the Standards on building alterations, such as those within Section V (Site Lighting) including Subpart E (Windows), F (Roofs), and S (Mechanical Equipment). These savings are cumulative, increasing as years go by.

The project does not involve any unusual characteristics that would result in excessive long-term operational building energy demand.

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SECTION 7.0
Alternatives to the Proposed Project

7.0 ALTERNATIVES TO THE PROPOSED PROJECT

Under CEQA, the identification and analysis of alternatives to a project is a fundamental part of the environmental review process. CEQA Public Resources Code Section 21002.l(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, "the purpose of an environmental impact report is . . . to identify alternatives to the project."

Direction regarding the definition of project alternatives is provided in the CEQA Guidelines as follows:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*

The CEQA Guidelines emphasize that the selection of project alternatives be based primarily on the ability to reduce significant effects relative to the proposed project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." The CEQA Guidelines further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed.

In selecting project alternatives for analysis, potential alternatives must pass a test of feasibility. CEQA Guidelines Section 15126.6(f)(1) states that:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site...*

Beyond these factors, CEQA Guidelines require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives. In addition, CEQA Guidelines Section 15126.6(c) requires that an EIR identify any alternatives that were considered for analysis but rejected as infeasible and discuss the reasons for their rejection.

The following are the project's goals and objectives, developed by the City of McFarland:

- Update the Land Use Element, including the establishment of new land use designations that better support and implement the needs of the community.

- Update the Land Use Map to be consistent with the land use designations within the Land Use Element.

- Establish a land use plan and policy framework that will guide future development and redevelopment within undeveloped areas of the City and Sphere of Influence.

- Facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public.

- Provide opportunities for new commercial and industrial development that allow for the City to become a more self-sustaining community.

- Provide employment opportunities within the City that will contribute to an improved jobs/housing balance.

- Promote mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services.

- Provide opportunities for a variety of housing options to serve the needs of the community.

- Provide new goals and policies that promote improved design and development to create economically viable and vibrant environments within the planning area.

The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. The range of potential alternatives to the proposed project shall also include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

Only locations that would avoid or substantially lessen any of the project's significant effects need be considered for inclusion. An alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative need not be considered.

Only those impacts found significant and unavoidable are relevant in making the final determination of whether an alternative is environmentally superior or inferior to the proposed project. The proposed project would result in the following significant and unavoidable impacts:

- *Land Use and Planning* – The project would result in a significant and unavoidable impact regarding inconsistency with Noise Element Policy 2.

- *Air Quality* – Project implementation would result in significant unavoidable operational and cumulative air quality impacts under future buildout conditions.

- *Greenhouse Gas Emissions* – Project implementation would result in significant unavoidable project related and cumulative GHG impacts.

- *Noise* – Project implementation would result in significant unavoidable long-term (mobile) noise and cumulative traffic noise impacts.

Potential environmental impacts associated with the following alternatives are compared to impacts from the proposed project:

- "No Project/Existing General Plan Land Use" Alternative;
- "Reduced Residential Development" Alternative; and
- "Proposed Project with Hanawalt Interchange" Alternative.

Throughout the following analysis, the alternatives' impacts are analyzed for each environmental issue area, as examined in Sections 5.1 through 5.15 of this EIR. In this manner, each alternative can be compared to the proposed project on an issue-by-issue basis. Table 7-4, *Comparison of Alternatives*, which is included at the end of this Section, provides an overview of the alternatives analyzed and a comparison of each alternative's impact in relation to the proposed project. This Section also identifies alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. Among the factors used to eliminate alternatives from detailed consideration are: failure to meet most of the basic project objectives; infeasibility; or inability to avoid significant environmental impacts. Section 7.4, *Environmentally Superior Alternative*, references the "environmentally superior" alternative, as required by the CEQA Guidelines.

In accordance with CEQA Guidelines Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the CEQA Guidelines, among the factors that may be used to eliminate alternatives from detailed consideration are the alternative's failures to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. One alternative that has been considered and rejected as infeasible is summarized as follows:

- One alternative that has been considered and rejected as infeasible is the Alternative Location Alternative. This Alternative would involve designating land anticipated for future annexation within another area of the City's Sphere of Influence (SOI). The SOI area identified for land use designations is located adjacent to the City's southernmost boundary, adjacent to existing development within the City. This area is also located near SR-99 and other major roadways that can be extended and improved for future development. The designation of other areas of the SOI would involve land surrounded by undeveloped areas and could potentially encourage leap frog development in areas not supported by infrastructure. This type of development would likely result in greater environmental impacts and is not typically supported. As such, this Alternative has been rejected from further consideration by the City.

7.1 "NO PROJECT/EXISTING GENERAL PLAN LAND USE" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

In accordance with the CEQA Guidelines, "the no project analysis shall discuss the existing conditions …, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." The CEQA Guidelines continue to state that "in certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained."

The "No Project/Existing General Plan Land Use" Alternative, which is the reasonably foreseeable development alternative, includes a discussion and analysis of what would be reasonably expected to occur in the foreseeable future if the project were not approved, and future development would continue to occur consistent with the City's existing General Plan Land Use Element and Land Use Map. Under this Alternative, no amendments to the General Plan Land Use Element would occur; thus, the Highway Commercial and Mixed-Use designations and associated objectives and policies would not be adopted. Additional modifications to the objectives and policies to address future development within the City would not occur. Land use designations for properties within the City would remain unchanged. Further, land use designations would not be identified for areas within the SOI to demonstrate the type of development and uses the City would encourage and support as part of future annexation opportunities. The SOI would remain in its current state with implementation of this Alternative. Any future development in the SOI would occur consistent with the existing County land use and zoning designations. Annexation of any portion of the SOI into the City would not occur under this Alternative.

The following discussion evaluates the potential environmental impacts associated with the No Project/Existing General Plan Land Use Alternative, as compared to impacts from the proposed project.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use and Planning

Under the No Project/Existing General Plan Land Use Alternative, two new land use designations and zoning districts would not be created, land use designations and zoning districts for existing properties within the City would not be changed, and approximately 1,978 acres of land within the southern portion of the City's SOI would not be assigned land use designations and zoning districts; therefore, no amendments to the General Plan or Zoning Ordinance are proposed under this Alternative.

Although the No Project/Existing General Plan Land Use Alternative would not require amendments to the General Plan and Zoning Ordinance, this Alternative would not provide consistency between the General Plan map and the General Plan Land Use and Circulation Elements. This Alternative would not implement the objectives and policies that would clarify the City's intent for improved design as growth occurs, provide more opportunities for housing options and employment/jobs, or create objectives and policies that reflect and respond to the

overarching goals and policies of the Kern COG 2014 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

However, as the No Project/Existing General Plan Land Use Alternative would not result in new growth opportunities in the City, this Alternative would remain consistent with the City's Noise Element Policy 2. Therefore, the No Project/Existing General Plan Land Use Alternative would avoid the project's significant and unavoidable land use and planning impact and would be environmentally superior to the proposed project regarding land use and planning.

Population, Housing, and Employment

With implementation this Alternative approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage (proposed by the project) would not get constructed. As the City is mostly developed and areas of employment-generating land uses are limited, buildout of the existing General Plan land uses are not anticipated to result in substantial increased population growth or new employment/job opportunities, compared to the proposed project.

Although this Alternative would result in reduced impacts associated with direct and indirect population growth, this Alternative would not create more opportunities for a variety of housing options within the City or help alleviate the City's unemployment rate of 15.5 percent. Further, this Alternative would not allow the City to provide expanded manufacturing and commercial opportunities that will allow the City to become a more self-sustaining community. Thus, the No Project/Existing General Plan Land Use Alternative would be neither environmentally superior nor inferior to the proposed project regarding population, housing, and employment.

Aesthetics/Light and Glare

As substantial growth within the City's SOI would not occur with this Alternative, the short-term visual impacts associated with demolition, grading, paving, and construction activities that could occur with the proposed project would not occur with the No Project/Existing General Plan Land Use Alternative. Therefore, the project's construction-related impacts to the visual character/quality of the project site and its surroundings would be reduced with this Alternative.

The project's long-term change in character/quality as a result of the intensification of development at existing rural/agricultural properties and increased light and glare within the City's SOI would not occur with the No Project/Existing General Plan Land Use Alternative. On the other hand, this Alternative would not propose objectives/policies that clarify the City's intent for improved design of future projects within the City and surrounding SOI. Thus, future development under the No Project/Existing General Plan Land Use Alternative would not meet the design expectations of the City to the extent of the proposed project. Thus, the No Project/Existing General Plan Land Use Alternative would be neither environmentally superior nor inferior to the proposed project regarding aesthetics/light and glare.

Transportation and Traffic

Existing peak hour intersection and roadway operating conditions were evaluated in the Traffic Study; refer to Section 5.4, *Transportation and Traffic*. All study intersections and roadway segments operate at an acceptable level of service (LOS) (LOS D or better) during the peak hours for both existing conditions and buildout of the existing General Plan. These conditions

would remain with implementation of the No Project/Existing General Plan Land Use Alternative. Based on the Traffic Study, this Alternative would result in less than significant impacts at intersections and roadway operating conditions. No circulation system improvements would be required. The increase in average daily traffic (ADT) projected to occur with the proposed project would not occur with this Alternative. Therefore, although less than significant, the project's impacts to study area intersections and roadways would be avoided with this Alternative.

However, the No Project/Existing General Plan Land Use Alternative would not develop objectives and policies to encourage pedestrian connections and no new designations/zoning districts for mixed-use development would be implemented. Thus, this Alternative would not encourage mixed-use, pedestrian oriented development in the City and SOI. Further, the opportunity for increased public transit usage would not occur with this Alternative. Thus, this Alternative would not expand access by City residents to employment and other resources and related services available throughout the region as well as reduce congestion and mobile source emissions.

The No Project/Existing General Plan Land Use Alternative would be neither environmentally superior nor inferior to the proposed project regarding transportation and traffic.

Air Quality

With implementation of this Alternative, approximately 4,850 dwelling units and 24.8 million square feet of non-residential square footage (proposed by the project) would not get constructed. As substantial growth within the City's SOI would not occur with this Alternative, short-term air quality impacts from demolition, grading, and construction activities would not occur. Therefore, the less than significant short-term air quality impacts that would occur with the proposed project would be substantially reduced with this Alternative.

As no increased development would occur with implementation of the No Project/Existing General Plan Land Use Alternative, this Alternative would not exceed the San Joaquin Valley Air Pollution Control District's (SJVAPCD's) emissions thresholds for ROG, NO_X, CO, SO_X PM_{10}, or $PM_{2.5}$ as a result of area source, energy source, and mobile source emissions, unlike the proposed project. Further, future residential uses would not be exposed to toxic air contaminants (TACs) as a result of proximity to SR-99. Therefore, the air quality emissions that would occur with the proposed project would be avoided with this Alternative.

However, it is noted that development of the No Project/Existing General Plan Land Use Alternative would not create objectives and policies pertaining to provisions for increased pedestrian connectivity in future design, the ability to develop mixed-uses in the City and SOI, or provide increased opportunity for employment/jobs in the City and SOI, which would all reduce vehicle trips in the City and regionally.

Despite this, the No Project/Existing General Plan Land Use Alternative would be environmentally superior to the proposed project regarding air quality, given it would avoid the project's significant and unavoidable long-term and cumulative air quality impacts, as well as conformity with the SJVAPCD's non-attainment emissions goals.

Greenhouse Gas Emissions

GHG emissions from construction and operational activities (515,037.79 $MTCO_2eq$) would not occur with the No Project/Existing General Plan Land Use Alternative. Therefore, the significant and unavoidable GHG emissions and cumulative emissions impacts that would occur with the proposed project would be avoided with this Alternative.

However, it is noted that development of the No Project/Existing General Plan Land Use Alternative would not create objectives and policies pertaining to provisions for increased pedestrian connectivity in future design, the ability to develop mixed-uses in the City and SOI, or provide increased opportunity for employment/jobs in the City and SOI, which would all reduce vehicle trips in the City as well as regionally.

Despite this, the No Project/Existing General Plan Land Use Alternative would be environmentally superior to the proposed project regarding GHG emissions, given it would avoid the project's significant and unavoidable long-term and cumulative GHG emissions impacts and consistency with the requirements of the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI).

Noise

Project construction noise would result in less than significant impacts, with mitigation incorporated, regarding exposure to surrounding sensitive receptors to noise levels in excess of the established standards. Construction activities would cause less than significant increased mobile noise along access routes to and from the site due to movement of equipment and workers. The project's construction-related vibration impacts are also anticipated to be less than significant. With implementation of the No Project/Existing General Plan Land Use Alternative, construction-related short-term noise and vibration impacts would not occur. Therefore, the short-term construction-related noise and vibration impacts that would occur with the proposed project would be avoided with this Alternative.

Future modeled noise levels without the proposed project would range from 28.8 dBA to 56.4 dBA at 100 feet from the roadway centerline. These existing conditions would continue with the No Project/Existing General Plan Land Use Alternative, although these existing conditions may be impacted by additional growth in the area. Project implementation would result in significant and unavoidable impacts from mobile noise sources. The increase in ADT projected to occur with the proposed project would not occur with this Alternative. Therefore, the project's long-term and cumulative significant and unavoidable impacts from mobile sources would be avoided.

The existing noise conditions would continue with the No Project/Existing General Plan Land Use Alternative. Project implementation would result in less than significant impacts from stationary noise sources. The increased noise from the proposed project, which would be typical of new residential and non-residential land uses, would not occur with this Alternative. Therefore, although less than significant, the project's long-term noise impacts from stationary sources would be avoided.

The No Project/Existing General Plan Land Use Alternative would be environmentally superior to the proposed project regarding noise, since it would avoid the project's long-term and cumulative noise impacts from mobile noise sources.

Geology and Soils

With implementation of this Alternative, substantial development within the City's SOI is not anticipated to occur. Thus, unlike the proposed project, the No Project/Existing General Plan Land Use Alternative would decrease the risk of exposure of people or structures to potential substantial adverse effects involving strong seismic ground shaking. This Alternative would not result in substantial soil erosion or the loss of topsoil and this Alternative would reduce the risk of exposure of future development to subsidence and expansive soils. The No Project/Existing General Plan Land Use Alternative would be environmentally superior to the proposed project regarding geology and soils.

Cultural Resources

Unlike the proposed project, the No Project/Existing General Plan Land Use Alternative would reduce the potential to uncover historic, cultural, archeological, or paleontological resources, or human remains. Thus, the No Project/Existing General Plan Land Use Alternative would be considered environmentally superior to the proposed project in this regard.

Biological Resources

Unlike the proposed project, this Alternative would reduce potential impacts to biological resources, including special status plant and wildlife species and riparian habitat and sensitive natural communities, as future development potential within the City's SOI is not anticipated. Potential impacts associated with jurisdictional waters and wetlands or potential interference with wildlife movement would not increase compared to existing conditions. The No Project/Existing General Plan Land Use Alternative would not conflict with the City's General Plan policies pertaining to the protection and minimization of impacts to threatened and endangered species and would be consistent with the draft Kern County *Valley Floor Habitat Conservation Plan* (HCP) (if finalized). Thus, the No Project/Existing General Plan Land Use Alternative would be considered environmentally superior to the proposed project in this regard.

Agriculture and Forestry Resources

Unlike the proposed project, with implementation of the No Project/Existing General Plan Land Use Alternative, prime farmland, unique farmland, or farmland of statewide importance (farmland) is not anticipated to be converted to non-agricultural use within the SOI. Further, implementation of this Alternative would not affect lands within the City's SOI that are under a Williamson Act Contract. Thus, the No Project/Existing General Plan Land Use Alternative would be considered environmentally superior to the proposed project in this regard.

Mineral Resources

Similar to the proposed project, implementation of the No Project/Existing General Plan Land Use Alternative would not involve any mineral extraction or mining activities and would not interfere with nearby mineral extraction operations. Similar to the proposed project, this Alternative would not result in the loss of land designated for mineral resources. Further, this Alternative would not result in the loss of a locally important mineral resource recovery site, similar to the proposed project. Therefore, the No Project/Existing General Plan Land Use Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Hydrology and Water Quality

With this Alternative, the short-term impacts on water quality associated with grading, excavation, and construction activities would be substantially reduced. Changes to impervious surfaces within the project site would not occur and the existing quality and quantity of storm water and urban runoff as well as groundwater would not be altered. Drainage improvements would not occur and groundwater would not be reduced as a result of water withdrawal for drinking water purposes with implementation of this Alternative. Although not to the extent of the proposed project, people/housing would still occur within a 100-year flood area within the eastern portion of the City and SOI, which could be exposed to inundation. All future development would still be subject to local regulations for provisions within a flood zone. Similar to the proposed project, impacts would be reduced through compliance with the City's Municipal Code Chapter 15.12 and applicable Kern County regulations. This Alternative would be considered environmentally superior to the proposed project in this regard.

Hazards and Hazardous Materials

The No Project/Existing General Plan Land Use Alternative would result in continued operations of the existing land uses; thus, this Alternative would not result in an increase in risk associated with the routine use, generation, transport, or disposal of hazardous materials to the public or the environment. Further, this Alternative would not result in increased hazards associated with the accidental release of hazardous materials during construction or operations. Emergency response and evacuation plan impacts would remain similar to existing conditions. As such, this Alternative would be considered environmentally superior to the proposed project in this regard.

Public Services and Utilities

Implementation of the proposed project would place increased demands upon public services and utilities consisting of fire protection, police protection, schools, recreation, library, water, wastewater, and solid waste. With implementation of the No Project/Existing General Plan Land Use Alternative, future development may still occur within the City. However, the resultant increased demands upon public services and utilities would not be as great at that under the proposed project, as no land uses within the City's SOI would be annexed. Therefore, the increased demands upon public services and utilities that would occur with the proposed project would be substantially avoided with this Alternative. The No Project/Existing General Plan Land Use Alternative would be environmentally superior to the proposed project regarding public services and utilities.

ABILITY TO MEET THE PROJECT'S GOALS AND OBJECTIVES

The No Project/Existing General Plan Land Use Alternative would not attain any of the proposed project's basic objectives. This Alternative would not update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would not be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would not facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. No new opportunities for future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would not be created within the City, to the scale of the proposed project, which would contribute to an improved jobs/housing balance.

Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would not be promoted. No increase in opportunities for a variety of housing options to serve the needs of the community would occur and no new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

7.2 "REDUCED RESIDENTIAL DEVELOPMENT" ALTERNATIVE

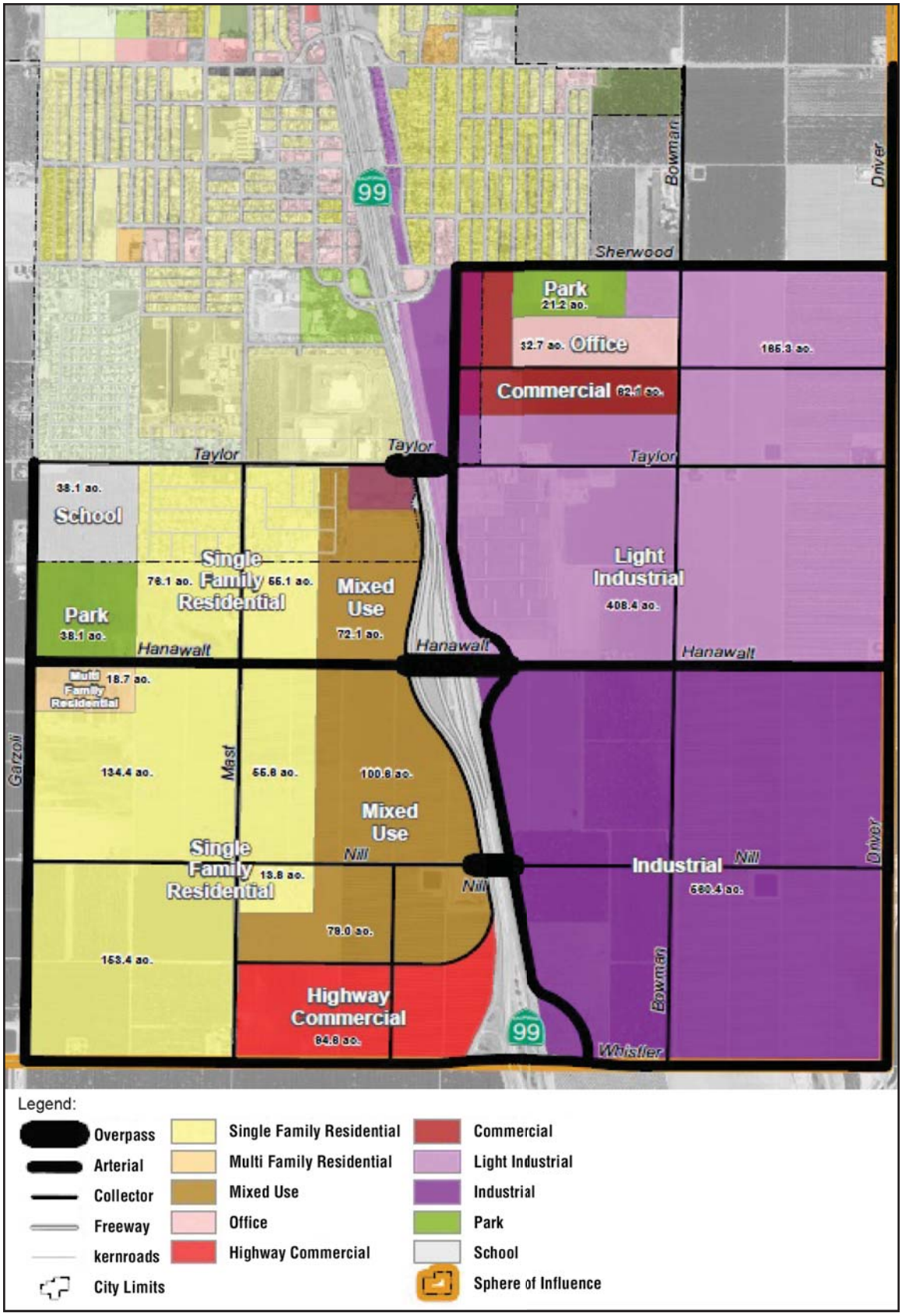
DESCRIPTION OF ALTERNATIVE

The "Reduced Residential Development" Alternative would amend the General Plan Land Use Element similar to the proposed project by introducing two new land use designations (Highway Commercial and Mixed-Use) and providing new and/or modified objectives and policies to address future development within the City. Similar to the project, this Alternative would amend the Land Use map, changing the land use designations for several properties within the City limits to either reflect current development or guide future development of vacant and underutilized land and establish land use designations within the SOI in anticipation of future annexation. However, this Alternative would allow for the development of fewer residential units and an increase in light and heavy industrial uses. Exhibit 7-1, *Reduced Residential Development Alternative Land Use Map*, identifies the land use designations for the area under this Alternative and Table 7-1, *Reduced Residential Development Alternative Estimated Development Potential*, identifies the estimated development potential associated with this Alternative.

Table 7-1
Reduced Residential Development Alternative Estimated Development Potential

Land Use Designations	City			Sphere of Influence			Total		
	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet	Acres	Dwelling Units	Non-Residential Square Feet
Low Density	64.34	394	--	394.06	2,533	--	458.4	2,927	--
Medium Density	0	0	--	18.70	519	--	18.7	519	--
Professional Office	0	--	0	32.72	--	712,642	32.72	--	712,642
Commercial	14.82	--	161,390	47.28	--	676,269	62.10	--	676,269
Highway Commercial	0	--	0	94.55	--	1,029,650	94.55	--	1,029,650
Mixed-Use	35.36	--	770,141	216.35	--	5,482,244	251.71	--	5,482,244
Light Industrial	35.13	--	612,105	563.39	--	10,432,272	598.73	--	10,432,272
Heavy Industrial	0	--	0	565.39	--	9,851,355	565.39	--	9,851,355
Public and Institutional	37.97	--	0	59.39	--		97.36	--	--
Total	**187.62**	**394**	**1,543,636**	**1,992.04**	**3,052**	**28,184,432**	**2,179.66**	**3,446**	**28,184,432**

Source: City of McFarland.



Source: Kern Council of Governments.

NOT TO SCALE

Michael Baker INTERNATIONAL

ENVIRONMENTAL IMPACT REPORT
McFARLAND GENERAL PLAN AMENDMENT

Reduced Residential Development Alternative Land Use Map

04/16 • JN 143076

Exhibit 7-1

As indicated in Table 7-1, the Reduced Residential Development Alternative would allow for potential development of 3,446 dwelling units and 28,184,432 square feet of non-residential uses. When compared to the project, this Alternative would involve:

- A decrease of 1,404 dwelling units;
- An increase of 3,316,659 square feet of light industrial uses; and
- An increase of 86,771 square feet of heavy industrial uses.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use and Planning

Under the Reduced Residential Development Alternative, two new land use designations and zoning districts would still be created, land use designations and zoning districts for existing properties within the City would still be changed, approximately 1,978 acres of land within the southern portion of the City's SOI would still be assigned land use designations and zoning districts in anticipation of future annexation and development, and General Plan and Zoning Ordinance amendments would still be required.

Compared to the proposed project, the Reduced Residential Development Alternative would not meet the City's goals for more opportunities for housing options to the extent that the proposed project would (as this Alternative would result in 1,404 fewer dwelling units), but would exceed the City's goals for more employment/job opportunities compared to the proposed project (as this Alternative would increase light industrial uses by 3,316,659 square feet and heavy industrial uses by 86,771 square feet). This Alternative would create objectives and policies that reflect and respond to the overarching goals and policies of the 2014 RTP/SCS, although not to the extent of the proposed project due to the decreased number of dwelling units provided. Similar to the proposed project, this Alternative would not be consistent with the City's Noise Element Policy 2.

Therefore, the Reduced Residential Development Alternative would not avoid the project's significant and unavoidable land use and planning impact and would be neither environmentally superior nor inferior to the proposed project regarding land use and planning.

Population, Housing, and Employment

With implementation of the Reduced Residential Development Alternative, approximately 1,978 acres of land within the City's SOI would still be assigned land use designations/zoning districts. However, approximately 1,404 fewer dwelling units and 3.4 million more square feet of non-residential square footage would potentially be constructed under this Alternative. Thus, fewer direct impacts to population growth (via new dwelling units) would occur. However, increased indirect impacts to population growth via increased employment/job opportunities would result.

This Alternative would not create as much opportunity for varying housing options (as the proposed project). However, the increased employment/job opportunities would further alleviate the City's unemployment rate of 15.5 percent (compared to the proposed project) and allow for expanded manufacturing and commercial opportunities for the City to become a more self-sustaining community.

Thus, the Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding population, housing, and employment.

Aesthetics/Light and Glare

Similar to the proposed project, the Reduced Residential Development Alternative would result in short-term visual impacts associated with demolition, grading, paving, and construction activities. The project's long-term change in character/quality as a result of the intensification of development at existing rural/agricultural properties at the project site would still occur with this Alternative. However, this Alternative would not result in single family residential uses adjoining proposed light industrial uses. On the other hand, this Alternative would result in increased light and glare, compared to the proposed project, as increased light and heavy industrial land uses and fewer residential uses would be developed. Thus, the Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding aesthetics/light and glare.

Transportation and Traffic

Based on the Traffic Study, the Reduced Residential Development Alternative is forecast to generate approximately 170,822 daily trips (approximately 1,200 fewer trips than the proposed project); refer to Appendix B, *Traffic Impact Analysis*. Table 7-2, *Forecast Year 2040 With Reduced Residential Development Alternative Intersection LOS*, depicts the Reduced Residential Development Alternative forecast study roadway operations.

As depicted in Table 7-2, the Reduced Residential Development Alternative would result in the following four significantly impacted roadway segments, similar to the proposed project:

- Whisler Road west of Garzoli Avenue (LOS F);
- Mast Avenue from Sherwood Avenue to Taylor Avenue (LOS F);
- Mast Avenue from Taylor Avenue to Hanawalt Avenue (LOS F); and
- Mast Avenue from Hanawalt Avenue to Whisler Road (LOS E).

Similar to the proposed project, the following improvements would still be required to be implemented for this Alternative:

- Widen Whisler Road west of Garzoli Avenue (to Stradley Avenue) from a two-lane undivided roadway to a two-lane divided roadway;

- Widen Mast Avenue to its ultimate cross-section width as a four-lane divided arterial roadway from Sherwood Avenue to Taylor Avenue; and

- Construct Mast Avenue from Taylor Avenue to Whisler Road at its ultimate cross-section width as a four-lane divided arterial roadway from Taylor Avenue to Whisler Road.

The Reduced Residential Development Alternative would also develop the same objectives and policies, as the proposed project that would encourage pedestrian connections and mixed-use development, although this would be accomplished to a lesser degree than the project (as fewer residential use options would be constructed). Thus, in general this Alternative would still expand access by City residents to employment and other resources and related services available throughout the region as well as reduce congestion and mobile source emissions, although to a less extent than the proposed project.

Table 7-2
Forecast Year 2040 With Reduced Residential Development Alternative Intersection LOS

Name		Segment	Proposed Project			Reduced Residential Development Alternative		
			Daily Traffic	V/C Ratio	LOS	Daily Traffic	V/C Ratio	LOS
1	Sherwood Avenue	West of SR-99/1st Street	25,400	0.68	B	23,700	0.63	B
2	1st Street	North of Sherwood Avenue	9,700	0.26	A	9,700	0.26	A
3	1st Street	Sherwood Avenue to SR-99	16,300	0.43	A	16,300	0.43	A
4	Sherwood Avenue	SR-99 To Browning Road	21,700	0.58	A	21,900	0.58	A
5	Sherwood Avenue	Browning Road to Bowman Road	10,200	0.27	A	9,500	0.25	A
6	Sherwood Avenue	Bowman Road to Driver Road	5,500	0.15	A	4,400	0.12	A
7	Sherwood Avenue	East of Driver Road	3,800	0.32	A	3,900	0.33	A
8	Cliff Avenue	West of Browning Road	1,500	0.08	A	1,500	0.08	A
9	Cliff Avenue	East of Browning Road	7,000	0.37	A	7,200	0.38	A
10	Taylor Avenue	Garzoli Avenue to Mast Avenue	1,800	0.10	A	1,800	0.10	A
11	Taylor Avenue	Mast Avenue to Frontage Road	6,500	0.35	A	6,600	0.35	A
12	Taylor Avenue	Frontage Road to Browning Road	4,800	0.26	A	4,800	0.26	A
13	Taylor Avenue	Browning Road to Bowman Road	7,500	0.40	A	7,600	0.40	A
14	Taylor Avenue	Bowman Road to Driver Road	1,000	0.05	A	900	0.05	A
15	Taylor Avenue	East of Driver Road	700	0.06	A	700	0.06	A
16	Hanawalt Avenue	West of Garzoli Avenue	700	0.06	A	700	0.06	A
17	Hanawalt Avenue	Garzoli Avenue to Mast Avenue	8,300	0.22	A	8,300	0.22	A
18	Hanawalt Avenue	Mast Avenue to Frontage Road	15,300	0.41	A	15,500	0.41	A
19	Hanawalt Avenue	Frontage Road to SR-99	14,400	0.38	A	14,200	0.38	A
20	Hanawalt Avenue	West of SR-99	14,400	0.38	A	14,200	0.38	A
21	Hanawalt Avenue	SR-99 to Browning Road	14,400	0.38	A	14,200	0.38	A
22	Hanawalt Avenue	Browning Road to Bowman Road	7,600	0.20	A	7,200	0.19	A
23	Hanawalt Avenue	Bowman Road to Driver Road	1,400	0.04	A	900	0.02	A
24	Hanawalt Avenue	East of Driver Road	700	0.06	A	700	0.06	A
25	Nill Avenue	West of Browning Road	7,200	0.38	A	7,100	0.38	A
26	Nill Avenue	East of Browning Road	3,300	0.18	A	3,300	0.18	A
27	Whisler Road	West of Garzoli Avenue	15,500	1.29	**F**	15,900	1.33	**F**
28	Whisler Road	Garzoli Avenue to Mast Avenue	5,200	0.14	A	4,600	0.12	A
29	Whisler Road	Mast Avenue to Commercial Access	17,400	0.46	A	17,500	0.47	A
30	Whisler Road	Commercial Access to SR-99	26,700	0.71	C	27,200	0.73	C
31	Whisler Road	West of SR-99	22,100	0.59	A	22,600	0.60	B
32	Whisler Road	SR-99 to Browning Road	20,000	0.53	A	20,600	0.55	A
33	Whisler Road	Browning Road to Bowman Road	6,600	0.18	A	6,700	0.18	A
34	Whisler Road	Bowman Road to Driver Road	1,800	0.05	A	1,300	0.03	A
35	Garzoli Avenue	Taylor Avenue to Hanawalt Avenue	1,100	0.03	A	1,100	0.03	A
36	Garzoli Avenue	Hanawalt Avenue to Whisler Road	11,100	0.30	A	11,400	0.30	A
37	Garzoli Avenue	South of Whisler Road	700	0.06	A	700	0.06	A
38	Mast Avenue	Sherwood Avenue to Taylor Road	20,400	1.09	**F**	20,300	1.08	**F**
39	Mast Avenue	Taylor Avenue to Hanawalt Avenue	20,600	1.10	**F**	20,500	1.09	**F**
40	Mast Avenue	Hanawalt Avenue to Whisler Road	17,400	0.93	**E**	17,200	0.91	**E**
41	Mast Avenue	South of Whisler Road	700	0.06	A	700	0.06	A
42	Commercial Access	North of Whisler Road	10,300	0.55	A	10,600	0.56	A
43	Frontage Road	Taylor Avenue to Hanawalt Avenue	900	0.05	A	300	0.02	A

Table 7-2 [continued]
Forecast Year 2040 With Reduced Residential Development Alternative Intersection LOS

Name		Segment	Proposed Project			Reduced Residential Development Alternative		
			Daily Traffic	V/C Ratio	LOS	Daily Traffic	V/C Ratio	LOS
44	Frontage Road	Hanawalt Avenue to Nill Avenue	4,200	0.22	A	4,100	0.22	A
45	Browning Road	North of Sherwood Avenue	25,600	0.68	B	25,400	0.68	B
46	Browning Road	Sherwood Avenue to Cliff Avenue	19,700	0.53	A	20,100	0.54	A
47	Browning Road	Cliff Avenue to Taylor Avenue	14,700	0.39	A	14,600	0.39	A
48	Browning Road	Taylor Avenue to Hanawalt Avenue	19,400	0.52	A	19,500	0.52	A
49	Browning Road	Hanawalt Avenue to Nill Avenue	14,800	0.39	A	15,100	0.40	A
50	Browning Road	Nill Avenue to Whisler Road	14,400	0.38	A	14,900	0.40	A
51	Browning Road	South of Whisler Road	900	0.08	A	900	0.08	A
52	Bowman Road	North of Sherwood Avenue	700	0.04	A	1,300	0.07	A
53	Bowman Road	Sherwood Avenue to Taylor Road	1,500	0.08	A	1,400	0.07	A
54	Bowman Road	Taylor Avenue to Hanawalt Avenue	5,300	0.28	A	4,900	0.26	A
55	Bowman Road	Hanawalt Avenue to Whisler Road	5,700	0.30	A	5,800	0.31	A
56	Bowman Road	South of Whisler Road	700	0.06	A	700	0.06	A
57	Driver Road	North of Sherwood Avenue	1,300	0.03	A	1,300	0.03	A
58	Driver Road	Sherwood Avenue to Taylor Road	2,100	0.06	A	1,500	0.04	A
59	Driver Road	Taylor Avenue to Hanawalt Avenue	1,500	0.04	A	1,400	0.04	A
60	Driver Road	Hanawalt Avenue to Whisler Road	1,500	0.04	A	1,200	0.03	A
61	Driver Road	South of Whisler Road	1,900	0.16	A	2,100	0.18	A

Notes:
1. V/C = volume to capacity ratio; LOS = level of service; N/A = Not Applicable.

Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, dated August 26, 2016.

The Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding transportation and traffic.

Air Quality

With implementation of the Reduced Residential Development Alternative, approximately 1,978 acres of land within the City's SOI would still be assigned land use designations/zoning districts. However, approximately 1,404 fewer dwelling units and 3.4 million more square feet of non-residential square footage would potentially be constructed under this Alternative. Short-term air quality impacts from demolition, grading, and construction activities would still occur with the Reduced Residential Development Alternative. Therefore, similar less than significant short-term air quality impacts that would occur with this Alternative, compared to the proposed project.

Although 1,404 fewer dwelling units would be constructed, 3.4 million more square feet of non-residential square footage would be developed. Based on the Traffic Study, the Reduced Residential Development Alternative is forecast to generate approximately 170,822 daily trips (approximately 1,200 fewer trips than the proposed project), which would also reduce operational mobile emissions. However, this reduction only represents 0.7 percent fewer trips than the proposed project. Thus, this Alternative would still exceed the SJVAPCD's emissions thresholds for ROG, NO_X, CO, SO_X PM_{10}, or $PM_{2.5}$ as a result of area source, energy source, and mobile source emissions. Further, future residential uses would still be exposed to TACs

as a result of proximity to SR-99. Therefore, the air quality emissions that would occur with the proposed project would be still occur with this Alternative.

The Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding air quality and the project's significant and unavoidable long-term and cumulative air quality impacts as well as conformity with the SJVAPCD's non-attainment emissions goals would not be avoided.

Greenhouse Gas Emissions

The Reduced Residential Development Alternative would result in 1,404 fewer dwelling units and 3.4 million more square feet of non-residential square footage, as well as a reduction in vehicle trips by 1,200 ADT (approximately 0.7 percent fewer trips). As a result, GHG emissions from construction and operational activities associated with the Reduced Residential Development Alternative would be similar to the emissions associated with the proposed project. Therefore, the significant and unavoidable GHG emissions and cumulative emissions impacts that would occur with the proposed project would also occur with this Alternative.

The Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding GHG emissions, given it would not avoid the project's significant and unavoidable long-term and cumulative GHG emissions impacts and not meet the SJVAPCD GAMAQI reduction or consistency requirements.

Noise

Project construction noise would result in less than significant impacts with mitigation incorporated regarding exposure to surrounding sensitive receptors to noise levels in excess of the established standards. Construction activities would cause less than significant increased mobile noise along access routes to and from the site due to movement of equipment and workers. The project's construction-related vibration impacts are also anticipated to be less than significant. Construction-related short-term noise and vibration impacts would still occur with the Reduced Residential Development Alternative. Therefore, similar short-term construction-related noise and vibration impacts to the proposed project, would occur with this Alternative.

Long-term noise impacts from vehicular travel on the surrounding roadway network would occur with the Reduced Residential Development Alternative, although to a slightly lesser degree than the proposed project. Comparatively, this Alternative's mobile source noise impacts would be less than the proposed project, given this Alternative would decrease the ADT by 0.7 percent compared to the proposed project. Thus, the mobile source noise impacts that would occur with the proposed project would occur also with this Alternative, although slightly reduced.

Project implementation would result in less than significant impacts from stationary noise sources associated with the proposed project. With the Reduced Residential Development Alternative, increased generating noise levels from new stationary sources, including mechanical equipment, and delivery activities, among others, would occur as a result of increased light and heavy industrial uses. Therefore, the stationary source noise impacts that would occur with the proposed project would occur also with this Alternative, however, to a greater degree.

The Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding noise and the project's significant and unavoidable long-term and cumulative noise impacts from mobile noise sources would not be avoided.

Geology and Soils

Implementation of the Reduced Residential Development Alternative would result in the development of the same geographic area as the proposed project, although this Alternative would result in 1,404 fewer dwelling units and 3.4 million more square feet of non-residential square footage. Thus, the Reduced Residential Development Alternative would still expose people and structures to potential substantial adverse effects involving strong seismic ground shaking. This Alternative would also result in soil erosion and the loss of topsoil during construction and operations. This Alternative would still expose future development to subsidence and expansive soils. Mitigation measures applicable to the proposed project would still apply to this Alternative. The Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding geology and soils.

Cultural Resources

Similar to the proposed project, Reduced Residential Development Alternative could result in impacts to potentially historic, cultural, archeological, or paleontological resources. Compliance with applicable Federal, State, and local regulations concerning the preservation of historic, archaeological, and paleontological resources, including CEQA compliance on a project-by-project basis, would reduce potential impacts to a less than significant level. Following compliance with State regulations, which detail the appropriate actions necessary in the event human remains are encountered, potential impacts to human remains would be less than significant under this Alternative, similar to the proposed project. Thus, Reduced Residential Development Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Biological Resources

Similar to the proposed project, the Reduced Residential Development Alternative could result in impacts to biological resources, including special status plant and wildlife species and riparian habitat and sensitive natural communities associated with future development of residential and non-residential land uses. Due to the conceptual nature of future development under either this Alternative or the proposed project, development could impact jurisdictional waters and wetlands or potentially interfere with wildlife movement. As with the proposed project, the Reduced Residential Development Alternative would be required to comply with mitigation measures, on a project-by-project basis, in order to comply with the City's General Plan policies pertaining to the protection and minimization of impacts to threatened and endangered species and the draft Kern County *Valley Floor Habitat Conservation Plan* (HCP) (if finalized). Potential biological resource impacts associated with either this Alternative or the proposed project would be reduced to a less than significant level with the implementation of mitigation measures. Thus, the Reduced Residential Development Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Agriculture and Forestry Resources

Similar to the proposed project, implementation of the Reduced Residential Development Alternative would involve prime farmland, unique farmland, or farmland of statewide importance (farmland). Any future annexation requests and development activities would be reviewed by the City to ensure compliance with the City's General Plan. Future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County Local Agency Formation Commission (LAFCO), which would also be subject to CEQA review. Any lands identified through the Farmland Mapping and Monitoring Program (FMMP) as prime farmland, proposed for conversion to non-agricultural use would be evaluated to determine if the land meets the definition of prime farmland at that time. This Alternative would not result in the conversion of prime farmland, unique farmland, or farmland of statewide importance (farmland), to non-agricultural use, similar to the proposed project. Further, the establishment of land use designations by the City within its SOI would not alter the existing land use and zoning designations established by the County, nor the status of any Williamson Act Contracts, similar to the proposed project. Thus, the Reduced Residential Development Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Mineral Resources

Similar to the proposed project, implementation of the Reduced Residential Development Alternative would not involve any mineral extraction or mining activities and would not interfere with nearby mineral extraction operations. Similar to the proposed project, this Alternative would not result in the loss of land designated for mineral resources. Further, this Alternative would not result in the loss of a locally important mineral resource recovery site, similar to the proposed project. Therefore, the Reduced Residential Development Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Hydrology and Water Quality

Although this Alternative would result in decreased residential development and increased non-residential development, the potential area for development would not change. Thus, the short-term impacts on water quality associated with grading, excavation, and construction activities would be similar to the proposed project. Similar to the proposed project, the existing quantity of storm water and urban runoff would increase. However, the resultant water quality may be further impaired with this Alternative, as increased non-residential development would occur. Similar to the proposed project, drainage improvements would be required with implementation of this Alternative, reducing potential impacts. Although this Alternative could place people or housing within a 100-year flood area and/or potentially expose people or housing to inundation, this would not occur to the same extent as the proposed project (as this Alternative would reduce proposed residential uses on-site). Similar to the proposed project, impacts would be reduced through compliance with Federal and State standards and compliance with the City's Municipal Code Chapter 15.12. As such, this Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Hazards and Hazardous Materials

This Alternative would allow fewer residential development and increased non-residential development. Thus, this Alternative would result in increased operations of light and heavy industrial land uses that may use/store/transport hazardous materials within the City and SOI.

Thus, this Alternative would result in an increase in risk associated with the routine use, generation, transport, or disposal of hazardous materials to the public or the environment. Further, this Alternative would result in increased hazards associated with the accidental release of hazardous materials particularly during operations as a result of increased non-residential uses. Similar to the proposed project, this Alternative would be required to implement existing Federal, State, and local regulations pertaining to the use/storage/transport of hazardous materials in order to reduce these impacts to less than significant levels. Emergency response and evacuation plan impacts would be comparable to those of the proposed project. As such, this Alternative would be considered environmentally inferior to the proposed project in this regard.

Public Services and Utilities

Implementation of the proposed project would place increased demands upon public services and utilities consisting of fire protection, police protection, schools, recreation, library, water, wastewater, and solid waste. The Reduced Residential Development Alternative would result in reduced demands pertaining to schools, recreation, and library services, as fewer residential uses would be constructed. However, increased demands associated with non-residential uses, such as fire protection, police protection, water, wastewater, and solid waste would result. Therefore, the Reduced Residential Development Alternative would be neither environmentally superior nor inferior to the proposed project regarding public services and utilities.

ABILITY TO MEET THE PROJECT'S GOALS AND OBJECTIVES

The Reduced Residential Development Alternative would not meet some of the project's basic objectives. This Alternative would still update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would still be established to guide future development and redevelopment within undeveloped areas of the City and SOI. New goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be still be developed. This Alternative would also facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public.

However, implementation of this Alternative would not promote mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services to the same extent as the proposed project. Further, the increase in opportunities for a variety of housing options to serve the needs of the community would not be achieved to the same level as the proposed project.

On the other hand, this Alternative would provide increased opportunities for future commercial and industrial development, compared to the proposed project, in order to allow the City to become a more self-sustaining community. Further, increased employment opportunities would also be created, compared to the proposed project.

7.3 "PROPOSED PROJECT WITH HANAWALT INTERCHANGE" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

The "Proposed Project with Hanawalt Interchange" Alternative would amend the General Plan Land Use Element similar to the proposed project by introducing two new land use designations (Highway Commercial and Mixed-Use) and providing new and/or modified objectives and policies to address future development within the City. Similar to the project, this Alternative would amend the Land Use map, changing the land use designations for several properties within the City limits to either reflect current development or guide future development of vacant and underutilized land and establish land use designations within the SOI in anticipation of future annexation and development. This Alternative assumes a modified circulation system when compared to the proposed project. The City of McFarland, in cooperation with the California Department of Transportation (Caltrans), is developing a Project Study Report-Project Development Support (PSR-PDS) for constructing an interchange at the junction of SR-99 and Hanawalt Avenue. The SR-99/Hanawalt Avenue Interchange Project (Interchange Project) is a separate project from the proposed project. However, this Alternative assumes that the Interchange Project is constructed. This Alternative also assumes that overcrossings at Taylor Avenue and Nill Avenue are provided. Although these infrastructure improvements would likely result in an overall reduction in the development potential of the planning area, because a preferred alternative has not been identified or approved, for purposes of this analysis, it is assumed that this Alternative would involve the same land uses and estimated development potential as the project.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Land Use and Planning

Under the Proposed Project with Hanawalt Interchange Alternative, two new land use designations and zoning districts would still be created, land use designations and zoning districts for existing properties within the City would still be changed, approximately 1,978 acres of land within the southern portion of the City's SOI would still be assigned land use designations and zoning districts, and General Plan and Zoning Ordinance amendments would still be required under this Alternative.

To the same extent as the proposed project, this Alternative would meet the City's goals for more opportunities for housing options and increased employment/job opportunities and would create objectives and policies that reflect and respond to the overarching goals and policies of the 2014 RTP/SCS. Similar to the proposed project, this Alternative would result in significant and unavoidable impacts pertaining to consistency with the City's Noise Element Policy 2. Therefore, the Proposed Project with Hanawalt Interchange Alternative would not avoid the project's significant and unavoidable land use and planning impact and would be neither environmentally superior nor inferior to the proposed project regarding land use and planning.

Population, Housing, and Employment

This Alternative would result in no change in the development potential in the City or City's SOI, compared to the proposed project. Thus, this Alternative would result in similar direct and

indirect impacts to population growth as the proposed project. This Alternative would also create a similar mix of housing options and a similar alleviation to the City's unemployment rate of 15.5 percent (compared to the proposed project). Further, this Alternative would allow for expanded manufacturing and commercial opportunities, allowing for the City to become a more self-sustaining community, similar to the proposed project.

Thus, the Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding population, housing, and employment.

Aesthetics/Light and Glare

Similar to the proposed project, this Alternative would result in short-term visual impacts associated with demolition, grading, paving, and construction activities. Further, the project's long-term change in character/quality as a result of the intensification of development at existing rural/agricultural properties at the project site would still occur with this Alternative. As this Alternative would result in a new interchange and two new overcrossing structures, increased light and glare would occur, compared to the proposed project. The Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding aesthetics/light and glare.

Transportation and Traffic

Based on the Traffic Study, the Proposed Project with Hanawalt Interchange Alternative is forecast to generate the same number of traffic trips as the proposed project); refer to Appendix B, *Traffic Impact Analysis*. Table 7-3, *Forecast Year 2040 With Proposed Project with Hanawalt Interchange Alternative Intersection LOS*, depicts the Proposed Project with Hanawalt Interchange Alternative forecast study roadway operations.

As depicted in Table 7-3, the Proposed Project with Hanawalt Interchange Alternative would result in one significantly impacted roadway segment, similar to the proposed project:

- Whisler Road west of Garzoli Avenue (LOS F).

However, the following three significantly impacted roadway segments by the proposed project would be avoided with implementation of the Proposed Project with Hanawalt Interchange Alternative:

- Mast Avenue from Sherwood Avenue to Taylor Avenue (LOS A);
- Mast Avenue from Taylor Avenue to Hanawalt Avenue (LOS A); and
- Mast Avenue from Hanawalt Avenue to Whisler Road (LOS C).

Proposed Project with Hanawalt Interchange Alternative would only require the following improvement to be implemented:

- Widen Whisler Road west of Garzoli Avenue (to Stradley Avenue) from a two-lane undivided roadway to a two-lane divided roadway.

Table 7-3
Forecast Year 2040 With Proposed Project with Hanawalt Interchange Alternative Intersection LOS

Name		Segment	Proposed Project			Proposed Project with Hanawalt Interchange Alternative		
			Daily Traffic	V/C Ratio	LOS	Daily Traffic	V/C Ratio	LOS
1	Sherwood Avenue	West of SR-99/1st Street	25,400	0.68	B	13,700	0.37	A
2	1st Street	North of Sherwood Avenue	9,700	0.26	A	6,100	0.16	A
3	1st Street	Sherwood Avenue to SR-99	16,300	0.43	A	13,200	0.35	A
4	Sherwood Avenue	SR-99 To Browning Road	21,700	0.58	A	19,800	0.53	A
5	Sherwood Avenue	Browning Road to Bowman Road	10,200	0.27	A	10,700	0.29	A
6	Sherwood Avenue	Bowman Road to Driver Road	5,500	0.15	A	5,800	0.15	A
7	Sherwood Avenue	East of Driver Road	3,800	0.32	A	3,800	0.32	A
8	Cliff Avenue	West of Browning Road	1,500	0.08	A	1,500	0.08	A
9	Cliff Avenue	East of Browning Road	7,000	0.37	A	5,800	0.31	A
10	Taylor Avenue	Garzoli Avenue to Mast Avenue	1,800	0.10	A	1,800	0.10	A
11	Taylor Avenue	Mast Avenue to Frontage Road	6,500	0.35	A	6,000	0.32	A
12	Taylor Avenue	Frontage Road to Browning Road	4,800	0.26	A	4,300	0.23	A
13	Taylor Avenue	Browning Road to Bowman Road	7,500	0.40	A	7,700	0.41	A
14	Taylor Avenue	Bowman Road to Driver Road	1,000	0.05	A	800	0.04	A
15	Taylor Avenue	East of Driver Road	700	0.06	A	700	0.06	A
16	Hanawalt Avenue	West of Garzoli Avenue	700	0.06	A	700	0.06	A
17	Hanawalt Avenue	Garzoli Avenue to Mast Avenue	8,300	0.22	A	8,300	0.22	A
18	Hanawalt Avenue	Mast Avenue to Frontage Road	15,300	0.41	A	22,100	0.59	A
19	Hanawalt Avenue	Frontage Road to SR-99	14,400	0.38	A	28,200	0.75	C
20	Hanawalt Avenue	West of SR-99	14,400	0.38	A	23,000	0.61	B
21	Hanawalt Avenue	SR-99 to Browning Road	14,400	0.38	A	24,400	0.65	B
22	Hanawalt Avenue	Browning Road to Bowman Road	7,600	0.20	A	8,500	0.23	A
23	Hanawalt Avenue	Bowman Road to Driver Road	1,400	0.04	A	1,200	0.03	A
24	Hanawalt Avenue	East of Driver Road	700	0.06	A	700	0.06	A
25	Nill Avenue	West of Browning Road	7,200	0.38	A	7,200	0.38	A
26	Nill Avenue	East of Browning Road	3,300	0.18	A	4,100	0.22	A
27	Whisler Road	West of Garzoli Avenue	15,500	1.29	**F**	14,900	1.24	**F**
28	Whisler Road	Garzoli Avenue to Mast Avenue	5,200	0.14	A	5,300	0.14	A
29	Whisler Road	Mast Avenue to Commercial Access	17,400	0.46	A	16,600	0.44	A
30	Whisler Road	Commercial Access to SR-99	26,700	0.71	C	24,500	0.65	B
31	Whisler Road	West of SR-99	22,100	0.59	A	16,900	0.45	A
32	Whisler Road	SR-99 to Browning Road	20,000	0.53	A	9,100	0.24	A
33	Whisler Road	Browning Road to Bowman Road	6,600	0.18	A	6,400	0.17	A
34	Whisler Road	Bowman Road to Driver Road	1,800	0.05	A	1,900	0.05	A
35	Garzoli Avenue	Taylor Avenue to Hanawalt Avenue	1,100	0.03	A	1,100	0.03	A
36	Garzoli Avenue	Hanawalt Avenue to Whisler Road	11,100	0.30	A	10,700	0.29	A
37	Garzoli Avenue	South of Whisler Road	700	0.06	A	700	0.06	A
38	Mast Avenue	Sherwood Avenue to Taylor Road	20,400	1.09	**F**	10,300	0.55	A
39	Mast Avenue	Taylor Avenue to Hanawalt Avenue	20,600	1.10	**F**	10,900	0.58	A

Table 7-3 [continued]
Forecast Year 2040 With Proposed Project
with Hanawalt Interchange Alternative Intersection LOS

Name		Segment	Proposed Project			Proposed Project with Hanawalt Interchange Alternative		
			Daily Traffic	V/C Ratio	LOS	Daily Traffic	V/C Ratio	LOS
40	Mast Avenue	Hanawalt Avenue to Whisler Road	17,400	0.93	**E**	14,300	0.76	C
41	Mast Avenue	South of Whisler Road	700	0.06	A	700	0.06	A
42	Commercial Access	North of Whisler Road	10,300	0.55	A	8,800	0.47	A
43	Frontage Road	Taylor Avenue to Hanawalt Avenue	900	0.05	A	1,600	0.09	A
44	Frontage Road	Hanawalt Avenue to Nill Avenue	4,200	0.22	A	5,900	0.31	A
45	Browning Road	North of Sherwood Avenue	25,600	0.68	B	20,000	0.53	A
46	Browning Road	Sherwood Avenue to Cliff Avenue	19,700	0.53	A	9,600	0.26	A
47	Browning Road	Cliff Avenue to Taylor Avenue	14,700	0.39	A	6,100	0.16	A
48	Browning Road	Taylor Avenue to Hanawalt Avenue	19,400	0.52	A	14,300	0.38	A
49	Browning Road	Hanawalt Avenue to Nill Avenue	14,800	0.39	A	8,300	0.22	A
50	Browning Road	Nill Avenue to Whisler Road	14,400	0.38	A	3,700	0.10	A
51	Browning Road	South of Whisler Road	900	0.08	A	800	0.07	A
52	Bowman Road	North of Sherwood Avenue	700	0.04	A	700	0.04	A
53	Bowman Road	Sherwood Avenue to Taylor Road	1,500	0.08	A	1,300	0.07	A
54	Bowman Road	Taylor Avenue to Hanawalt Avenue	5,300	0.28	A	6,400	0.34	A
55	Bowman Road	Hanawalt Avenue to Whisler Road	5,700	0.30	A	5,400	0.29	A
56	Bowman Road	South of Whisler Road	700	0.06	A	700	0.06	A
57	Driver Road	North of Sherwood Avenue	1,300	0.03	A	1,300	0.03	A
58	Driver Road	Sherwood Avenue to Taylor Road	2,100	0.06	A	1,700	0.05	A
59	Driver Road	Taylor Avenue to Hanawalt Avenue	1,500	0.04	A	1,600	0.04	A
60	Driver Road	Hanawalt Avenue to Whisler Road	1,500	0.04	A	1,300	0.03	A
61	Driver Road	South of Whisler Road	1,900	0.16	A	1,600	0.13	A

Notes:
1. V/C = volume to capacity ratio; LOS = level of service; N/A = Not Applicable.

Source: Michael Baker International, *McFarland General Plan Amendment Traffic Impact Analysis*, dated August 26, 2016.

The Proposed Project with Hanawalt Interchange Alternative would develop the same objectives and policies, as the proposed project that would encourage pedestrian connections and mixed-use development, although this would be accomplished to a greater degree than the project (as this Alternative would construct additional SR-99 overcrossings and a new interchange to serve the area). Thus, in general this Alternative would expand access by City residents to employment and other resources and related services available throughout the region as well as reduce congestion and mobile source emissions to a greater extent than the proposed project.

As the Proposed Project with Hanawalt Interchange Alternative would avoid three project-impacted intersections, require fewer circulation network improvements, and increase connectivity (compared to the proposed project), this Alternative would be environmentally superior to the proposed project regarding transportation and traffic.

Air Quality

This Alternative would result in no change in the development potential in the City or City's SOI, compared to the proposed project. Short-term air quality impacts from demolition, grading, and construction activities would still occur with the Proposed Project with Hanawalt Interchange Alternative. Therefore, similar less than significant short-term air quality impacts that would occur with this Alternative, compared to the proposed project.

As similar development would occur compared to the proposed project, this Alternative would still exceed the SJVAPCD's emissions thresholds for ROG, NO_X, CO, SO_X PM_{10}, or $PM_{2.5}$ as a result of area source, energy source, and mobile source emissions. Further, future residential uses would still be exposed to TACs as a result of proximity to SR-99. Therefore, the air quality emissions that would occur with the proposed project would be still occur with this Alternative.

The Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding air quality and the project's significant and unavoidable long-term and cumulative air quality impacts as well as conformity with the SJVAPCD's non-attainment emissions goals would not be avoided.

Greenhouse Gas Emissions

The Proposed Project with Hanawalt Interchange Alternative would result in no change in proposed dwelling units or non-residential square footage, compared to the proposed project. GHG emissions from construction and operational activities would be similar to the proposed project and the significant and unavoidable GHG emissions and cumulative emissions impacts that would occur with the proposed project would remain with this Alternative.

The Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding GHG emissions and the project's significant and unavoidable long-term and cumulative GHG emissions impacts and consistency with the requirements of the SJVAPCD GAMAQI would remain.

Noise

Construction-related short-term noise and vibration impacts would still occur with the Proposed Project with Hanawalt Interchange Alternative. Therefore, similar short-term construction-related noise and vibration impacts to the proposed project, would occur with this Alternative. Long-term noise impacts from mobile and stationary sources that would occur with the proposed project would also occur with this Alternative.

The Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding noise and the project's significant and unavoidable long-term and cumulative noise impacts from mobile noise sources would not be avoided.

Geology and Soils

Implementation of the Proposed Project with Hanawalt Interchange Alternative would result in the development of the same geographic area as the proposed project, as well as the same development potential. Thus, the Proposed Project with Hanawalt Interchange Alternative

would still expose people and structures to potential substantial adverse effects involving strong seismic ground shaking. This Alternative would also result in soil erosion and the loss of topsoil during construction and operations. This Alternative would expose future development to subsidence and expansive soils, similar to the proposed project. Mitigation measures applicable to the proposed project would still apply to this Alternative. The Proposed Project with Hanawalt Interchange Alternative would be neither environmentally superior nor inferior to the proposed project regarding geology and soils.

Cultural Resources

Similar to the proposed project, the Proposed Project with Hanawalt Interchange Alternative could result in impacts to potentially historic, cultural, archeological, or paleontological resources. Compliance with applicable Federal, State, and local regulations concerning the preservation of historic, archaeological, and paleontological resources, including CEQA compliance on a project-by-project basis, would reduce potential impacts to a less than significant level. Following compliance with State regulations, which detail the appropriate actions necessary in the event human remains are encountered, potential impacts to human remains would be less than significant under this Alternative, similar to the proposed project. Thus, the Proposed Project with Hanawalt Interchange Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Biological Resources

Similar to the proposed project, the Proposed Project with Hanawalt Interchange Alternative could result in impacts to biological resources, including special status plant and wildlife species and riparian habitat and sensitive natural communities associated with future development of residential and non-residential land uses. Due to the conceptual nature of future development under either this Alternative or the proposed project, development could impact jurisdictional waters and wetlands or potentially interfere with wildlife movement. As with the proposed project, the Proposed Project with Hanawalt Interchange Alternative would be required to comply with mitigation measures, on a project-by-project basis, in order to comply with the City's General Plan policies pertaining to the protection and minimization of impacts to threatened and endangered species and the draft Kern County *Valley Floor Habitat Conservation Plan* (HCP) (if finalized). Potential biological resource impacts associated with either this Alternative or the proposed project would be reduced to a less than significant level with the implementation of mitigation measures. Thus, the Proposed Project with Hanawalt Interchange Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Agriculture and Forestry Resources

Similar to the proposed project, implementation of the Proposed Project with Hanawalt Interchange Alternative would involve prime farmland, unique farmland, or farmland of statewide importance (farmland). Any future annexation requests and development activities would be reviewed by the City to ensure compliance with the City's General Plan. Future annexation proposals to extend the City's corporate boundaries would require review and approval by Kern County LAFCO, which would also be subject to CEQA review. Any lands identified through the FMMP as prime farmland, proposed for conversion to non-agricultural use would be evaluated to determine if the land meets the definition of prime farmland at that time. This Alternative would not result in the conversion of prime farmland, unique farmland, or farmland of statewide

importance (farmland), to non-agricultural use, similar to the proposed project. Further, the establishment of land use designations by the City within its SOI would not alter the existing land use and zoning designations established by the County, nor the status of any Williamson Act Contracts, similar to the proposed project. Thus, the Proposed Project with Hanawalt Interchange Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Mineral Resources

Similar to the proposed project, implementation of the Proposed Project with Hanawalt Interchange Alternative would not involve any mineral extraction or mining activities and would not interfere with nearby mineral extraction operations. Similar to the proposed project, this Alternative would not result in the loss of land designated for mineral resources. This Alternative would not result in the loss of a locally important mineral resource recovery site, similar to the proposed project. Therefore, the Proposed Project with Hanawalt Interchange Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Hydrology and Water Quality

Implementation of this Alternative would result in the same development potential as the proposed project. Thus, the short-term impacts on water quality associated with grading, excavation, and construction activities would be similar to the proposed project. Similar to the proposed project, the existing quality and quantity of storm water and urban runoff would increase and drainage improvements would be required, reducing potential impacts. As with the proposed project, this Alternative could place people or housing within a 100-year flood area and/or potentially expose people or housing to inundation. Similar to the proposed project, impacts would be reduced through compliance with Federal and State standards and compliance with the City's Municipal Code Chapter 15.12. As such, this Alternative would be considered neither environmentally superior nor inferior to the proposed project in this regard.

Hazards and Hazardous Materials

This Alternative would result in the same development potential as the proposed project. Thus, this Alternative would result in similar operations of non-residential land uses that may use/store/transport hazardous materials within the City and SOI. Thus, this Alternative would result in a similar risk associated with the routine use, generation, transport, or disposal of hazardous materials to the public or the environment. This Alternative would also result in similar hazards associated with the accidental release of hazardous materials. Similar to the proposed project, this Alternative would be required to implement existing Federal, State, and local regulations pertaining to the use/storage/transport of hazardous materials in order to reduce these impacts to less than significant levels. However, emergency response and evacuation plan impacts would be alleviated with this Alternative, compared to the proposed project, as circulation improvements connecting the eastern and western portions of the City would be in place (via new overcrossings and a new interchange). As such, this Alternative would be considered environmentally superior to the proposed project in this regard.

Public Services and Utilities

Implementation of the proposed project would place increased demands upon public services and utilities consisting of fire protection, police protection, schools, recreation, library, water, wastewater, and solid waste. The Proposed Project with Hanawalt Interchange Alternative would result in similar impacts associated with increased demands upon public services and utilities, as the same land use development potential would occur, compared to the proposed project. Therefore, the increased demands upon public services and utilities that would occur with the proposed project would also occur with this Alternative. On the other hand, this Alternative would substantially improve the connectivity of the eastern and western portions of the project area and within the surrounding area, as two new overcrossings and one new interchange at SR-99 would be in place. Thus, police and fire protection services would be able to provide faster response times in the City. Thus, the Proposed Project with Hanawalt Interchange Alternative would be environmentally superior to the proposed project regarding public services and utilities.

ABILITY TO MEET THE PROJECT'S GOALS AND OBJECTIVES

The Proposed Project with Hanawalt Interchange Alternative would attain all of the project's basic objectives. This Alternative would update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would also facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. New opportunities for future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would be created within the City that would contribute to an improved jobs/housing balance. Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would be promoted. Opportunities for a variety of housing options to serve the needs of the community would result and new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

7.4 "ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

Table 7-4, *Comparison of Alternatives*, summarizes the comparative analysis presented above (i.e., the alternatives compared to the proposed project). Review of Table 7-4 and the analysis presented above indicates the No Project/Existing General Plan Land Use Alternative is the environmentally superior alternative, as this alternative would avoid or lessen impacts associated with development of the proposed project. According to CEQA Guidelines Section 15126.6(e), *"No Project" Alternative*, "if the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Accordingly, the Proposed Project with Hanawalt Interchange is the environmentally superior alternative. Although the projects' significant and unavoidable impacts would not be avoided, this Alternative would achieve all of the proposed project's basic objectives.

Table 7-4
Comparison of Alternatives

Sections	No Project/Existing General Plan Land Use	Reduced Residential Development	Proposed Project With Hanawalt Interchange
Land Use and Planning*	⮟	=*	=*
Population, Housing, and Employment	=	=	=
Aesthetics/Light and Glare	=	=	=
Transportation and Traffic	=	=	⮟
Air Quality*	⮟	=*	=*
Greenhouse Gas Emissions*	⮟	=*	=*
Noise*	⮟	=*	=*
Geology and Soils	⮟	=	=
Cultural Resources	⮟	=	=
Biological Resources	⮟	=	=
Agricultural and Forestry Resources	⮟	=	=
Mineral Resources	=	=	=
Hydrology and Water Quality	⮟	=	=
Hazards and Hazardous Materials	⮟	⮝	⮝
Public Services and Utilities	⮟	=	⮟

⮝ Indicates an impact that is greater than the proposed project (environmentally inferior).
⮟ Indicates an impact that is less than the proposed project (environmentally superior).
= Indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior).
* Indicates a significant and unavoidable impact.

The Proposed Project with Hanawalt Interchange Alternative would attain all of the project's basic objectives. This Alternative would update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would also facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. New opportunities for future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would be created within the City that would contribute to an improved jobs/housing balance. Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would be promoted. Opportunities for a variety of housing options to serve the needs of the community would result and new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

Further, the No Project/Existing General Plan Land Use Alternative would not attain any of the proposed project's basic objectives. This Alternative would not update the Land Use Element to better support and implement the needs of the community. A land use plan and policy framework would not be established to guide future development and redevelopment within undeveloped areas of the City and SOI. This Alternative would not facilitate increased vitality in the planning area by encouraging new development, including mixed-use development and commercial uses along the highway that cater to the traveling public. No new opportunities for

future commercial and industrial development would be provided in order to allow the City to become a more self-sustaining community. New employment opportunities would not be created within the City, to the scale of the proposed project, which would contribute to an improved jobs/housing balance. Mixed-use development with higher density residential uses in proximity to existing transportation infrastructure and services would not be promoted. No increase in opportunities for a variety of housing options to serve the needs of the community would occur and no new goals and policies promoting improved design and creating economically viable and vibrant environments within the planning area would be developed.

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SECTION 8.0
Effects Found Not To Be Significant

8.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines Section 15128, *Effects Not Found To Be Significant*, requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study.

The City of McFarland determined that an EIR was clearly required for the project, thus, an Initial Study was not prepared. This option is permitted under CEQA Guidelines Section 15063(a), which states that if the Lead Agency determines an EIR will be required for a project, the Lead Agency may skip further initial review and begin work on the EIR.

During the course of this environmental evaluation (see Sections 5.1 through 5.15), it was determined the project would not have any measurable impact or less than significant impact for certain environmental issue areas. These findings were based on the project's inability due to its scope and nature to create such impacts or the absence of project characteristics producing effects of this type. The effects determined not to be significant are not required to be included in primary analysis sections of the Draft EIR. Those issue areas for which the environmental evaluation determined the project would not have any measurable impact or would have less than significant impact are identified below. Those issue areas for which the environmental evaluation determined the project would have less than significant impact with mitigation incorporated are also identified.

8.1 "NO IMPACT" CONCLUSIONS

The environmental evaluation determined the project would not have any measurable impact regarding the following issue areas:

AESTHETICS

- ***Have a substantial adverse effect on a scenic vista.***

According to the City of McFarland General Plan EIR (McFarland General Plan EIR) and Kern County General Plan, there are no scenic features identified within the City's planning area. However, the McFarland General Plan Open Space, Conservation and Recreation Element indicates that the City has scenic qualities in the form of roses, almonds, walnuts, citrus, and other types of fruit trees as well as cotton. The project site is located in the southeastern portion of the City's planning area and includes incorporated land and land within the City's SOI, consisting of single-family residential, park, and agricultural uses. Given the sites are primarily agricultural land, there are no vistas present from within or involving this relatively flat portion of the area. Therefore, project implementation would have a less than significant effect on a scenic vista.

- ***Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.***

The project site is generally located south of Sherwood Avenue, east of SR-99 and south of Taylor Avenue, west of SR-99; east of Garzoli Avenue; West of Driver Road; and North of Whisler Road. These roads are not designated as a State scenic highway and there are no

designated State scenic highways in the project's vicinity.[1] The City is located west of the Sierra Nevada foothills and east of the Temblor Mountain Range, which due to the distance would be unaffected by future site development. The project site does not include any rock outcroppings or historic buildings within a State scenic highway. Therefore, project implementation would not substantially damage scenic resources, including trees, rock outcroppings, and historic buildings. A less than significant effect on scenic resources would result.

AGRICULTURE AND FOREST RESOURCES

- ***Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).***

The project site is located within a rural agricultural setting in the Central Valley. The land uses within the project site and surrounding area do not consist of and are not zoned for forest land, timberland, or Timberland Production. Therefore, project implementation would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production. No impact would occur in this regard.

- ***Result in the loss of forest land or conversion of forest land to non-forest use.***

The project site is not occupied by or used as forest land. Therefore, project implementation would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur in this regard.

- ***Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.***

As noted above, portions of the project site are designated, zoned, and utilized for agricultural use. There is no forest land located on the project site or in its immediate vicinity. The project consists of re-designating land uses within the City of McFarland, and applying new land use designations to areas within the City's SOI. As such, the proposed project would not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. A less than significant impact would occur in this regard.

AIR QUALITY

- ***Create objectionable odors affecting a substantial number of people.***

According to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts, the SJVAPCD identified common types of facilities that are known to produce odors including wastewater treatment facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations (e.g. auto body shops), food processing facilities, feed lots/dairy,

[1] California Department of Transportation Website, California Scenic Highway Mapping System, Officially Designated State and County Scenic Highways, http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm, Accessed May 26, 2015.

and rendering plants. The project does not propose future development of any such uses as being associated with odors and does not result in sensitive receptors located closer than the screening level distances identified by the SJVAPCD. Construction activities associated with the project could generate detectable odors from heavy-duty equipment exhaust. However, construction-related odors would be intermittent, short-term in nature, and cease upon project completion. Therefore, project implementation would not create objectionable odors affecting a substantial number of people and a less than significant impact would occur in this regard.

BIOLOGICAL RESOURCES

- ***Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.***

The project site is located in the southeastern portion of incorporated land of the City and southeastern portion of land within the City's SOI, which consists of single-family residential, park, and agricultural uses. There are no streams, creeks, rivers, or other riparian corridors within the project area. In addition, according to the McFarland General Plan and Kern County General Plan, there are no identified sensitive natural communities within the project area. No areas associated with the project site are subject to the jurisdiction of the California Department of Fish and Wildlife, and the project site does not occur within areas designated by the U.S. Fish and Wildlife Service as critical habitat for any federally listed species.[2] Project implementation would not significantly impact any riparian habitat or other sensitive natural community and a less than significant impact would occur in this regard.

GEOLOGY AND SOILS

- ***Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving;***

1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. Ground rupture is most likely along active faults, and typically occurs during earthquakes of magnitude five or higher. Ground rupture only affects the area immediately adjacent to a fault.

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act requires the State Geologist to establish regulatory zones, known as "Alquist-Priolo (AP) Earthquake Fault Zones," around the surface traces of active faults and to issue appropriate maps. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet). The project area is not located within a State-designated AP Earthquake Fault Zone, and no known active or potentially

[2] United States Fish and Wildlife Service, *Environmental Conservation Online System, Critical Habitat Mapping Service*, http://ecos.fws.gov/ecp/services, accessed June 10, 2015.

active faults are known to exist within or in the immediate vicinity of the site.[3] Therefore, project implementation would not expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault. No impact would occur in this regard.

3) Seismic-related ground failure, including liquefaction.

Liquefaction most often occurs in areas underlain by young alluvium where the groundwater table is higher than 50 feet below the ground surface.[4] According to the California Department of Water Resources Groundwater Information Center, groundwater depth in the general vicinity of the project area ranges between approximately 305 and 320 feet below ground surface (bgs).[5] In addition, the City of McFarland General Plan Environmental Impact Report (General Plan EIR) states that liquefaction in McFarland is a non-factor. As such, the potential for liquefaction within the project site is considered low.

In addition to liquefaction, the project area could be susceptible to seismic-induced lateral spreading or settlement of loose unconsolidated soils during a strong seismic shaking event. However, based on the subsurface soils within the project area and moderate seismic activity in the region, seismic settlement and/or lateral spreading are not expected to present a significant hazard within the project area during seismic events. A less than significant impact would occur in this regard.

4) Landslides.

The project area and its surroundings are relatively level. Onsite elevations range from approximately 395 feet above mean sea level (msl) in the eastern portion of the project area, to approximately 350 feet above msl along the western margin.[6] Given the site's topography, there is no potential for seismically-induced landslides. Therefore, project implementation would not expose people or structures to potential substantial adverse effects involving seismic landslides. No impact would occur in this regard.

- ***Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.***

The project site is located in a suburban/rural area. The City of McFarland provides sewer connections to uses within the City limits. Therefore, future development under the proposed project would be required to connect to the City's sewer system. As such, sewer infrastructure would be available for disposal of wastewater generated by the proposed project. Septic tanks and alternative wastewater disposal systems will not be required as part of the project. No impact would occur in this regard.

[3] California Department of Conservation California Geological Survey Website, *Alquist-Priolo Home Page,* http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm, accessed June 11, 2015.

[4] County of Kern, *Kern County General Plan Recirculated Program Environmental Impact Report*, January 2004.

[5] California Department of Water Resources, *Groundwater Information Center Interactive Map Application*, https://gis.water.ca.gov/app/gicima/, accessed October 12, 2015.

[6] United States Geological Survey, *McFarland Quadrangle*, dated 1945, photorevised 1969.

HAZARDS AND HAZARDOUS MATERIALS

- ***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, would the project result in a safety hazard for people residing or working in the project area.***

The nearest airport to the project site is the Delano Municipal Airport, which is located approximately 4.15 miles to the north. According to the Delano Municipal Airport Comprehensive Land Use Plan Map,[7] the project site is not located within the Delano Municipal Airport land use planning boundaries, which include the 60 and 65 CNEL noise contours. Therefore, the proposed project would not result in an airport-related safety hazard for people working at or visiting the General Plan planning area. No impact would occur in this regard.

- ***For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.***

The project site is not located in the vicinity of a private airstrip. Therefore, the proposed project would not result in a safety hazard for people working in the Project area associated with a private airstrip. No impact would occur in this regard.

- ***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.***

The Kern County Fire Department (KCFD) monitors the fire hazards within the City of McFarland and unincorporated areas of the County. According to the Kern County Fire Hazard Severity Zone (FHSZ) map, there are no FHSZ zones located in the Plan area.[8] Therefore, project implementation would not expose people or structures to a significant risk involving wildland fires. No impact would occur in this regard.

HYDROLOGY AND WATER QUALITY

- ***Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.***

There are several dams that have the ability to affect Kern County in the event of failure. However, the potential for significant flooding associated with dam inundation to occur within the City of McFarland has not been identified. Dam inundation maps for Lake Isabella, the largest reservoir in the County, indicate that flooding from dam failure would not extend into the Plan area.[9] According to the *2012 Kern Multi Jurisdiction Hazard Mitigation Plan* (Kern MJHMP), there are no levees located within McFarland or the surrounding area.[10] The Kern MJHMP identifies the likelihood of a levee failure as low with limited affects to Kern County in the event of a levee failure.[11] No portion of the Plan area is located within a levee or dam inundation area.

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[7] County of Kern, *Airport Land Use Compatibility Plan*, November 13, 2012.

[8] CAL FIRE, *Wildland Hazard & Building Codes, Kern County FHSZ Map*, http://www.fire.ca.gov/fire_prevention/fhsz_maps_kern.php, accessed June 11 2015.

[9] Kern County Engineering, Surveying and Permit Services, Lake Isabella Flood Area, http://esps.kerndsa.com/floodplain-management/lake-isabella-flood-area/, accessed June 11, 2015.

[10] Amec, *Kern Multi Jurisdiction Hazard Mitigation Plan,* September 2012.

[11] Ibid.

Therefore, project implementation would not increase the exposure of people or structures to a significant risk involving flooding as a result of the failure of a levee or dam.

- ***Inundation by seiche, tsunami, or mudflow.***

A seiche is an earthquake or slide-induced wave that can be generated in an enclosed body of water of any size from swimming pool, to a harbor, or lake. There is no enclosed body of water that is located in the vicinity of the Plan area. Lake Woollomes is the closest body of water, located approximately 3.75 miles northeast of the Plan area.

A tsunami is a sea wave generated by an earthquake, landslide, volcanic eruption, or even by a large meteor hitting the ocean. An event such as an earthquake creates a large displacement of water resulting in a rise or mounding at the ocean surface that moves away from this center as a sea wave. Tsunamis generally affect coastal communities and low-lying (low-elevation) river valleys in the vicinity of the coast. Buildings closest to the ocean and near sea level are most at jeopardy. According to the City's General Plan Safety Element, there is no probability that the Plan area and Kern County would be affected by tsunamis.[12]

Potential risk from mudflow (i.e., mudslide, debris flow) does not exist within the project area, as steep slopes are not located on or in proximity to the Plan area.

Therefore, project implementation would not expose people or structures to potential hazards from inundation by seiche, tsunami, or mudflow.

LAND USE AND PLANNING

- ***Physically divide an established community.***

The project site consists of approximately 7,220 acres, which is comprised of 1,680 acres of incorporated land and 5,540 acres of land within the City's sphere of influence generally bound by single-family residences, correctional facilities, school, park, and commercial retail uses to the north, and agricultural uses to the south, east, and west. The project site is currently developed with single-family residential, park, farms, vineyards, orchards, and other agricultural related uses. The Plan area proposes a varied mix of residential, office, commercial, mixed-use, industrial, public and institutional land uses. The project site is surrounded by existing residential neighborhoods, institutional, and commercial uses to the north, and thus, would be considered a continuation of the existing land use pattern. Therefore, project implementation would not physically divide an established community.

- ***Conflict with any applicable habitat conservation plan or natural community conservation plan.***

The project site is not located within the jurisdiction of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, project implementation would not conflict with the provisions of any such plan.

[12] City of McFarland, *General Plan Safety and Seismic Safety Element*, September 1991.

NOISE

- ***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, would the project expose people residing or working in the project area to excessive noise levels.***

The project site is located approximately 4.15 miles south of Delano Municipal Airport. According to the Delano Municipal Airport Comprehensive Land Use Plan Map, the project site is not located within the Delano Municipal Airport land use planning boundaries, which include the 60 and 65 CNEL noise contours. Therefore, the proposed project would not expose people working in or visiting the General Plan planning area to excessive noise levels associated with Delano Municipal Airport.

- ***For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.***

The project site is not located in the vicinity of a private airstrip. Therefore, the proposed project would not expose people working in the project area to excessive noise levels associated with a private airstrip.

POPULATION AND HOUSING

- ***Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.***

The project does not propose site-specific development or the removal of existing housing. Proposed land use changes within the City limits would reflect development that currently exists within the area. The project would not displace existing housing, necessitating the construction of replacement housing elsewhere.

TRANSPORTATION/TRAFFIC

- ***Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.***

The project site is located approximately 4.15 miles south of Delano Municipal Airport. Given the nature, scope, and location of the proposed project, changes in air traffic patterns or traffic levels that would result in substantial safety risks would not occur.

8.2 "LESS THAN SIGNIFICANT IMPACT" (WITHOUT PROJECT MITIGATION) CONCLUSIONS

Project implementation would result in less than significant impacts for the following issue areas, as concluded in Sections 5.1 through 5.15.

AESTHETICS

- ***Future development within the General Plan Planning Area could substantially degrade the existing visual character/quality of the respective development sites and their surroundings.***

- ***Future development within the General Plan Planning Area, combined with other related cumulative projects, could substantially degrade the existing visual character/quality of the respective development sites and their surroundings.***

AGRICULTURE AND FOREST RESOURCES

- ***The project could convert prime farmland, unique farmland, or farmland of statewide importance (farmland), as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.***

- ***The project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract.***

- ***Development associated with implementation of the proposed project and other cumulative development could result in cumulatively considerable impacts to agricultural resources.***

AIR QUALITY

- ***Short-term construction activities associated with the proposed project could result in air pollutant emission impacts or expose sensitive receptors to substantial pollutant concentrations.***

GEOLOGY AND SOILS

- ***The project would not result in substantial soil erosion or the loss of topsoil.***

HAZARDS AND HAZARDOUS MATERIALS

- ***Future development in accordance with the proposed project could result in an increased risk associated with the routine use, generation, transport, or disposal of hazardous materials, which may potentially pose a health or safety hazard to the public or the environment.***

- ***Future development associated with the proposed project could result in interference with an adopted emergency response or evacuation plan.***

HYDROLOGY AND WATER QUALITY

- ***Development associated with implementation of the proposed project could deplete groundwater supplies.***

- ***Development associated with implementation of the proposed project could result in alteration of drainage patterns of the site or area including alteration of a stream or river, resulting in substantial erosion, flooding, or significant risk of loss.***

- ***Development associated with implementation of the proposed project could result in impacts related to a 100-year flood event.***

- ***Development associated with implementation of the proposed project could result in cumulative considerations regarding the depletion of groundwater supplies.***

- ***Development associated with implementation of the proposed project could result in the alteration of drainage patterns of the site or area, including alteration of a stream or river, resulting in substantial cumulatively considerable erosion, flooding, or significant risk of loss.***

- ***Development associated with implementation of the proposed project could result in cumulative considerations impacts related to a 100-year flood event.***

LAND USE AND PLANNING

- ***The proposed project would not conflict with Kern COG's 2014 Regional Transportation Plan/Sustainable Strategy.***

- ***The proposed project could result in potential inconsistency impacts with the McFarland Zoning Ordinance.***

- ***Development associated with implementation of the proposed plan amendment and cumulative development could result in cumulative considerable land use impacts.***

MINERAL RESOURCES

- ***The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.***

- ***The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local General Plan, specific plan, or other land use plan.***

- ***The project would not cumulatively contribute to the loss of availability of a regional, state, or locally important mineral resource.***

NOISE

- ***The proposed project would not expose people to severe noise levels associated with railroad noise.***

- ***The proposed project would not result in a significant increase in long-term stationary ambient noise levels.***

POPULATION AND HOUSING

- ***Project implementation could induce substantial population growth in the planning area.***
- ***Project implementation would not displace housing or people, necessitating the construction of replacement housing.***
- ***Development anticipated by the project and cumulative development could induce substantial population growth in the Kern Council of Governments subregion.***

PUBLIC SERVICES AND UTILITIES

- ***Project implementation would not result in substantial adverse physical impacts associated with the increased demand for fire protection services.***
- ***Project implementation would not result in substantial adverse physical impacts associated with the increased demand for police protection services.***
- ***Project implementation would not result in substantial adverse physical impacts associated with the provision of school facilities and services.***
- ***Project implementation would not result in substantial adverse physical impacts associated with the increased use of park/recreational facilities.***
- ***Project implementation would not result in substantial adverse physical impacts associated with the increased use of library facilities.***
- ***Project implementation could require or result in the construction of new wastewater conveyance/treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.***
- ***The project would not result in significant impacts related to solid waste landfill capacities and would not conflict with federal, state, or local statutes and regulations related to solid waste.***
- ***The project would not result in significant impacts to other public facilities.***

TRANSPORTATION

- ***Project implementation could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).***
- ***Project implementation could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.***

8.3 "LESS THAN SIGNIFICANT IMPACT" (WITH MITIGATION) CONCLUSIONS

Project implementation would result in less than significant impacts with mitigation incorporated for the following issue areas, as concluded in Sections 5.1 through 5.15.

AESTHETICS

- ***Grading and construction activities associated with future development could temporarily degrade the existing visual character/quality of the respective development sites and their surroundings.***
- ***Future development within the General Plan Planning Area could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.***
- ***Project construction activities, combined with construction activities for other related cumulative projects, could temporarily degrade the visual character/quality of the development sites and their surroundings.***
- ***Future development within the General Plan Planning Area combined with other related cumulative projects, could create a new source of light and/or glare, which could affect daytime and/or nighttime views in the area.***

BIOLOGICAL RESOURCES

- ***Project implementation could have an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status.***
- ***Project implementation could have a substantial adverse effect on federally protected wetlands.***
- ***Implementation of the proposed project could interfere with the movement of a native resident or migratory species.***
- ***Project implementation would not conflict with policies protecting biological resources.***
- ***Implementation of the proposed project would not conflict with the Kern County Valley Floor Habitat Conservation Plan.***
- ***Development associated with project implementation combined with cumulative development could result in cumulatively considerable impacts to biological resources.***

CULTURAL RESOURCES

- ***Future development associated with implementation of the project could impact historical, archaeological, or paleontological resources.***

- ***Project implementation could disturb human remains, including those interred outside of formal cemeteries.***

- ***Potential development associated with implementation of the proposed project and other related development could result in cumulatively considerable impacts to cultural resources.***

GEOLOGY AND SOILS

- ***The project could expose people or structures to potential substantial adverse effects involving strong seismic ground shaking.***

- ***The proposed development could be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, exposing people or structures to potential substantial adverse effects associated with landslide, lateral spreading, subsidence, liquefaction, or collapse.***

- ***The proposed project could result in development that is located on expansive soil creating substantial risks to life or property.***

- ***The proposed project, combined with other related cumulative projects, would not expose people or structures to potential substantial adverse effects involving geology and soils.***

HAZARDS AND HAZARDOUS MATERIALS

- ***Accidental release of hazardous materials used, stored, or transported in the city as a result of implementation of the proposed project could result of implementation of the proposed project could result in a public health risk.***

- ***Future development associated with implementation of the proposed project could impact hazardous material sites listed on government code section 65962.5 and create a significant hazard to the public or the environment.***

- ***Development associated with implementation of the proposed project and cumulative development could result in cumulatively considerable impacts to public health safety.***

HYDROLOGY AND WATER QUALITY

- ***Implementation of the proposed project could violate water quality standards and waste discharge requirements.***

- ***Development associated with implementation of the proposed project could create or contribute to runoff water which could exceed the capacity of existing or planned storm water drainage systems or provide substantial additional resources of polluted runoff.***

- ***Implementation of the proposed project could result in cumulative considerations regarding the violation of water quality standards and waste discharge requirements.***

- ***Development associated with implementation of the proposed project could create or contribute to runoff water which could cumulatively exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.***

NOISE

- ***Grading and construction within the area could result in significant temporary noise impacts to nearby noise sensitive receivers.***

- ***Project implementation could result in significant vibration impacts to nearby sensitive receptors.***

PUBLIC SERVICES AND UTILITIES

- ***Sufficient water supplies may not be available to serve the project from existing entitlements and resources; new or expanded entitlements could be needed.***

- ***Project implementation would result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.***

TRANSPORTATION

- ***Project implementation could result in an increase in traffic volumes for the planning horizon year of 2040, which could impact the capacities of the intersections or roadways within the planning area.***

- ***Project implementation could conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated road or highway.***

- ***Development associated with implementation of the proposed project and other related development could result in cumulatively considerable transportation and circulation impacts.***

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SECTION 9.0
Organizations and Persons Consulted

9.0 ORGANIZATIONS AND PERSONS CONSULTED

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Linda Bo, Graphic Artist and Document Production

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SECTION 10.0
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Written Correspondence, Ben Raymond, Kern Council of Governments, October 20 and October 26, 2015.

Written Correspondence, Cary Wright, Captain, Kern County Fire Department, January 7, 2016.

Written Correspondence, Dennis McNamara, Planning Director, City of McFarland, October 7, 2015.

Written Correspondence, Jeff Nickell, District Manager, McFarland Recreation and Park District, November 4, 2015.

Written Correspondence, Jerrod Place, Sergeant, McFarland Police Department, February 16, 2016.

Written Correspondence, Melissa Mejia, Library Associate, Clara M. Jackson branch library, Sergeant, December 17, 2015.

Written Correspondence, Sandy Hannah, Facilities Specialist, McFarland Unified School District, March 17, 2016.