Westside Industrial Specific Plan (WISP)
Draft
Environmental Impact Report
(SCH #2003102067)

Volume 1

Prepared for the
City of Turlock

Prepared by
Wade Associates

August 10, 2004

NOTICE OF AVAILABILITY

TO: Interested Parties
FROM: City of Turlock
DATE: August 10, 2004
SUBJECT: CIRCULATION OF DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE WESTSIDE INDUSTRIAL SPECIFIC PLAN (WISP)

The City of Turlock has released a Draft Environmental Impact Report for the project listed below:

Project Name: Westside Industrial Specific Plan (WISP)

Applicant: City of Turlock, California

Project Location: Turlock is located in Stanislaus County. The Study Area is generally bounded on the north by Fulkerth Road, on the south by West Linwood Avenue, and on the west by Washington Road. A small portion of the Study Area lies east of SR 99 bounded by West Main Street and Soderquist Road.

Project Description: The Turlock General Plan designates the WISP Study Area as the primary location for new job growth in the City. The fundamental purpose of the project is to implement the General Plan and expand and diversify the existing industrial area in the City of Turlock. The WISP Study Area encompasses a total of 2,632 acres, including 515 acres of Industrial Reserve. The project also includes 1,211 acres of Industrial land use, 250 acres for Industrial Business Professional use, 261 acres of Commercial land use, and 39 acres of Detention Basin Park.

Review Period: The City requests your comments on the Draft EIR during a 45-day review period which begins on Tuesday, August 10, 2004 and concludes on Friday, September 24, 2004. Written comments must be hand-delivered no later than 5:00 pm on Friday, September 24, 2004, or received by mail no later than that same date.

Comments should be addressed to:
Mr. Michael I. Cooke, Planning Manager
City of Turlock Planning Division
156 South Broadway, Suite 120
Turlock, CA 95380

Public Hearings: A public hearing to receive oral comments on the Draft EIR will be held before the Planning Commission during the 45-day review period. A subsequent public hearing to take final action on the project will be held before the City Council. Dates for these public hearings will be announced in the local newspaper.

Availability: Copies of the Draft EIR are available for public review at:
City of Turlock Planning Division (156 South Broadway, Suite 120, Turlock)
and the Stanislaus County Library (550 N. Minaret Avenue, Turlock)

Referenced documents are also available for review at the Planning Division.

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1. SUMMARY

1.1 INTRODUCTION

This document is an Environmental Impact Report (EIR) for the Westside Industrial Specific Plan (WISP). An EIR provides information to the public and to decision-makers regarding the significant or potentially significant environmental impacts of a proposed project. The Guidelines for the California Environmental Quality Act (CEQA), Section 15002(f) define an EIR as:

> *"…the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage."*

The 1992 Turlock General Plan (adopted in March, 1993, and reviewed in 2002) constitutes the current policy document relating to the City's long-term vision for its physical development. Specific plans provide for the systematic implementation of the General Plan, containing standards and criteria by which development can proceed within those areas governed by the specific plans.

1.1.1 Program EIR

This EIR for the Westside Industrial Specific Plan is a "program EIR."

As discussed in Section 2 of this EIR, the Turlock General Plan designates the WISP Study Area as the primary location for new job growth in the City. The fundamental purpose of the proposed project is to implement the General Plan and expand and diversify the existing industrial area in the City of Turlock. The WISP project proposes industrial, industrial-business professional, and commercial zoning for the Study Area, but no site-specific development projects are designated.

Under such circumstances, CEQA authorizes public agencies to prepare a program EIR:

> *"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 general similar environmental effects which can be mitigated in similar ways." (CEQA Guidelines Section 15168(a))*

CEQA Guidelines Section 15168(c) states that:

"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(d) further states that:

"A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

(1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.

(2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

(3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before."

1.1.2 Tiering from the General Plan MEA/ DEIR

Section 15183 of the Guidelines minimizes the need for future environmental review of projects determined to be consistent with the community's general plan and where an EIR has been certified by the lead agency for that general plan. Should further environmental review for later site-specific activities be required, the Lead Agency is authorized to "tier" those subsequent or supplemental reviews based on the information, analysis, and conclusions presented in the general plan EIR. This streamlines the review subsequent projects and reduces the need to prepare repetitive environmental studies.

Section 15152 of the Guidelines explains:

> *"(a) Tiering" refers to using the analysis of general matters contained in a broad EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.*
>
> *(b) Agencies are encouraged to tier the environmental analyses which they prepare for separate but related project including general plans, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review.*

In accordance with the provisions of CEQA and the Guidelines, this Program EIR for the WISP project is tiered from the certified Master Environmental Assessment and EIR for the Turlock General Plan.

1.2 INTENDED USE OF THIS EIR

This EIR is intended to inform the public and decision-makers of the potential significant environmental impacts of the proposed Westside Industrial Specific Plan, to indicate mitigation measures which may reduce or avoid these potential significant environmental impacts, and to identify reasonable alternatives to the proposed project.

1.3 CEQA PROCESS

1.3.1 Notice of Preparation

During a preliminary review of the WISP project, the City of Turlock, as Lead Agency, identified potential impacts that might result from implementation of the proposed project, providing cause for the preparation of an EIR. A Notice of Preparation (NOP) of a Draft Environmental Impact

Report (DEIR) was distributed to responsible and interested agencies, and other interested parties, on October 14, 2003 for a 30-day review. Copies were also available for public review at the Turlock Planning Division. A copy of the NOP and the comment letters received are included as Appendix A in the Technical Appendix to this EIR (Volume 2). The distribution list for the NOP and this Draft EIR is included as Appendix B in Volume 2. Comments on the NOP were received from the following agencies, (listed in order of receipt):

Stanislaus Local Agency Formation Commission

Turlock Irrigation District

San Joaquin Valley Air Pollution Control District

California State Department of Conservation, Division of Land Resource Protection

Stanislaus County, Environmental Review Committee

1.3.2 Public Comment Period on the Draft EIR

This Draft EIR (DEIR) will be available for public review at the Turlock Planning Department, 156 S. Broadway, Suite 120, Turlock, for a 45-day review period. All documents referenced in the DEIR will also be available for public review at the Turlock Planning Department. The Turlock Planning Commission will hold a public meeting on the DEIR during this comment period to receive comments. The distribution list for the DEIR is included as Appendix B in the Technical Appendix to this EIR (Volume 2). In addition, the public may submit comments in writing to the City of Turlock. All comments should be sent to:

Mr. Michael Cooke, Planning Manager
City of Turlock Planning Division
156 S. Broadway, Suite 120
Turlock, CA 95380-5454

1.3.3 Final EIR

Comments received during the comment period and public hearing will be addressed in the Final Environmental Impact Report (FEIR). A Mitigation Monitoring Program (MMP) will also be included in the FEIR. An MMP is intended to be used by the City of Turlock mitigation monitoring personnel to ensure compliance with mitigation measures during project implementation.

The Turlock Planning Commission and City Council will consider the FEIR, with the comments and written responses, as well as the MMP prior to certification of the EIR.

1.3.4 "Findings" and Certification of the Final EIR

Prior to considering the approval of the WISP project, the City of Turlock must certify that the EIR has been completed in compliance with CEQA, and must make one or more of the following "findings" for each significant impact identified (CEQA Guidelines Section 15091(a)(1-3)):

1. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding.

3. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Substantial evidence in the record must support these findings.

1.3.5 "Statement of Overriding Considerations" and Approval of a Project

> *"CEQA requires the decision-making agency to balance the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If specific economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."* (CEQA Guidelines Section 15093(a))

The Lead Agency must state in writing the specific reasons to support approval of a project that will result in significant environmental effects identified as not avoided or substantially avoided in the certified Final EIR. Substantial evidence in the public record is required to support such a "statement of overriding considerations." (CEQA Guidelines Section 15093(b))

1.4 EIR FOCUS AND EFFECTS FOUND NOT TO BE SIGNIFICANT

The preliminary environmental assessment concluded that potentially significant impacts could result in the areas of aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazardous materials, ground water resources, land use issues, noise, traffic, population and housing, and public facilities and services.

Mineral resources and wildland fire were found not to be significant issues requiring further environmental analysis.

The California Division of Mines and Geology records no mineral resources in the Turlock area.[1] Therefore, mineral resources are not further analyzed in this EIR.

The threat to WISP from wildland fires is extremely low due to the agricultural land and urban development adjacent to the Plan Area. Therefore, wildland fire is not further analyzed in this EIR.

1.5 LEVELS OF SIGNIFICANCE

CEQA (Section 21068) defines a significant effect on the environment as that which has:

> *"...a substantial, or potentially substantial, adverse change in the environment."*

CEQA Guidelines (Section 15360) defines "environment" as:

> *"…the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions."*

Level of significance varies for each project, depending upon the change in the existing physical conditions of the setting. For each proposed project:

> *"The lead agency shall determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record."* (CEQA, Section 21082.2(a))

Based upon CEQA's definition of significant effect on the environment, the following levels of significance have been defined for evaluating the impacts that may result from the Westside Industrial Specific Plan (WISP):

No Impact: No change from existing environmental conditions.

Less than Significant Impact: No substantial adverse change in existing environmental conditions. Mitigation is not required, although mitigation measures may be applied to further reduce an adverse impact.

Significant Impact: A substantial adverse change in existing environmental conditions that should be mitigated, if feasible.

Significant and Unavoidable Impact: A substantial adverse change in existing environmental conditions that would not be mitigated to a less-than-significant level.

Beneficial Impact: A positive change in the existing environmental conditions.

1.6 POTENTIAL AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Five (5) potential areas of controversy are expected during the review of this General Plan and General Plan EIR:

- land use and agricultural resource conversion
- air quality
- domestic water
- open space
- traffic

1.6.1 Land Use and Agricultural Resource Conversion

The proposed WISP project proposes changes in land use designations. As these changes would result in increased urban development, including areas that are currently adjacent to or designated agricultural land, controversy over development projects and agricultural resource conversion may arise.

1.6.2 Air Quality

The City of Turlock is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The San Joaquin Valley suffers from serious air pollution, due to long, warm summers and surrounding mountains that trap smog in the valley, not allowing the smog to dissipate. In addition to smog, dry weather conditions and topography allow small particles of man-made compounds, as well as soot, ash, and dust to become suspended in the air, creating particulate matter. While these weather conditions benefit the agricultural uses in the area, they do not promote healthful air quality.

1.6.3 Domestic Water

Due in part to relatively long, dry summers and mild winters, domestic water is often an issue of discussion in California. The WISP project is located west of the urbanized portion of Turlock. This outlying area will need domestic water transmission pipelines extended from the existing water distribution grid and the addition of new groundwater wells before development can occur.

1.6.4 Open Space

Protection of open space is fundamental to maintain the quality of life enjoyed by current and future residents. New development will inherently change some aspects of the open space resource through conversion of agricultural land.

1.6.5 Traffic

There has been an increase in both population and development in Turlock area in recent years. These increases have translated into more intensified use of automobiles. The Plan Area circulation system is addressed in the Westside Industrial Specific Plan as a means of improving traffic conditions in and around the Plan Area.

1.7 AGENCIES AND ORGANIZATIONS THAT MAY USE THIS EIR IN THEIR DECISION-MAKING

In addition to the City's use of this document as the environmental basis for the adoption of the proposed WISP project, other local, regional, State, and/or federal agencies may elect to utilize the information presented as the environmental basis for the later discretionary actions of those agencies. Other agencies and organizations which may use this document in their capacity as responsible agencies or in permitting procedures include, but are not limited to:

- Turlock Irrigation District
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- Stanislaus County Agricultural Commission
- Stanislaus County Chief Executive Office
- Stanislaus County Council of Governments (STANCOG)
- Stanislaus County Department of Environmental Resources
- Stanislaus County Department of Public Works
- Stanislaus County Local Agency Formation Commission (LAFCo)
- Stanislaus County Planning Department
- California State Department of Conservation
- California State Department of Food and Agriculture
- California Department of Fish and Game
- California Water Quality Control Board, Central Valley Region
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers

1.8 INCORPORATED BY REFERENCE

Pursuant to Section 15150 (CEQA Guidelines), the Lead Agency is authorized to "incorporate by reference" all or portions of other documents that are a matter of public record and that contain information applicable to the pending project or the impacts associated with the project. The following documents are hereby incorporated by reference into this EIR:

"1992 City of Turlock General Plan" as adopted by the City of Turlock, March 1993, reviewed June 2002.

"Air Quality Guidelines for General Plans." San Joaquin Valley Unified Air Pollution Control District, 1994.

"City of Turlock General Plan Master Environmental Assessment," September 1992, Reviewed June 2002, and "City of Turlock General Plan Draft Environmental Impact Report", September 1992.

These documents are available for review at the City of Turlock Planning Division during the regular business hours. The Division is the custodian of records for the Westside Industrial Specific Plan and its accompanying CEQA documentation.

1.9 INDEPENDENT JUDGMENT

The preliminary findings presented in this EIR reflect the independent judgment of the City of Turlock relative to the nature and magnitude of the potential impacts resulting from the adoption of the Westside Industrial Specific Plan, and the subsequent build-out of the project site in accordance with the plans, policies, and programs contained within the Specific Plan and City of Turlock General Plan. Additionally, this document presents the independent judgment of the City of Turlock relative to each of the alternatives examined in this EIR, and the efficacy of the recommended actions now proposed by the Lead Agency to reduce or avoid the significant or potentially significant environmental effects as identified.

1.10 ORGANIZATION OF THIS DRAFT EIR DOCUMENT

This Draft EIR for the Westside Industrial Specific Plan is organized into the following eighteen (18) sections:

SECTION 1 SUMMARY

Summary of the CEQA Process and the Impacts and Mitigation Measures discussed in this Draft EIR.

SECTION 2 PROJECT AND ALTERNATIVES DESCRIPTION

Description of the WISP project and overview of the analyzed alternatives.

SECTIONS 3–15 IMPACT ANALYSIS

Discussion and analysis of potential impacts of the WISP project upon the following:

- Aesthetics and Visual Resources (Section 3)
- Agricultural Resources (Section 4)
- Air Quality (Section 5)
- Biological Resources (Section 6)
- Cultural Resources (Section 7)
- Geology, Soils, and Seismicity (Section 8)
- Hazardous Materials (Section 9)
- Hydrology and Water Quality (Section 10)
- Land Use and Planning (Section 11)
- Noise (Section 12)
- Population and Housing (Section 13)
- Public Facilities and Services (Section 14)
- Traffic and Circulation (Section 15)

SECTION 16 ALTERNATIVES ANALYSIS

Discussion of the alternatives analyzed and the Environmentally Preferred Alternative.

SECTION 17 OTHER CEQA-REQUIRED IMPACT ANALYSIS

Analysis of Growth-Inducing Impacts, Significant Environmental Effects Which Cannot be Avoided, and Cumulative Impacts.

SECTION 18 REPORT PREPARATION

Listing of Agencies and Organizations that contributed to the preparation of this Draft EIR for the WISP project.

1.11 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The potential impacts, mitigation measures, and the residual level of significance resulting from implementation of the proposed WISP project and recommended mitigation measures are summarized in Table 1-1. A discussion of each of these impacts can be found in the corresponding Sections of this EIR.

Table 1-1

Summary of Impacts and Mitigation Measures

AESTHETICS AND VISUAL RESOURCES	
POTENTIAL IMPACT AV-1:	**The proposed development will have a substantial adverse effect on a scenic vista.**
Level of Significance:	**Less Than Significant**
POTENTIAL IMPACT AV-2:	**The existing visual character or quality of the area will be degraded as a result of the proposed Westside Industrial Specific Plan (WISP) development.**
Level of Significance:	**Less Than Significant**
POTENTIAL IMPACT AV-3:	**There will be an increased impact of light or glare from buildout of the proposed WISP project.**
Level of Significance:	**Potentially Significant**

Mitigation Measures:

The impact of light and glare can be minimized by incorporating design features and operating requirements into new development that limit light and glare on-site.

AV-2.1: All lighting fixtures must be shielded to confine light spread within the site boundaries. (Westside Industrial Specific Plan Urban Design Standards DS 129, DS 202)

AV-2.2: Building illumination and architectural lighting shall be indirect. Floodlights are prohibited. (Westside Industrial Specific Plan Urban Design Standard DS 206)

AV 2.3: Light standards for parking areas shall no exceed thirty feet (30') in height. (Westside Industrial Specific Plan Urban Design Standard DS 204)

AV-2.4: Security lighting fixtures shall not project above the fascia or roofline of the building and are to be shielded. The shields shall be painted to match the surface to which they are attached. (Westside Industrial Specific Plan Urban Design Standard DS 209)

AV-2.5: Provide minimal street lighting to meet safety standards and provide direction.

AV-2.6: Lights shall be placed to direct and control glare. Obtrusive light, light trespass, and poorly directed plighting shall not be permitted.

AV-2.7: Lighting sources shall be thoughtfully located and shall have cut-off lenses to avoid light spillage and glare on adjacent properties.

AV-2.8: Provide directional shielding for street and parking lot lighting.

AV-2.9: Provide automatic shutoff or motion sensors for lighting features in newly developed areas.

Residual Level of Significance: Less Than Significant With Mitigation

AGRICULTURAL RESOURCES

POTENTIAL IMPACT AG-1: Implementation of the proposed Westside Industrial Specific Plan (WISP) project will result in conversion of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to non-agricultural use.

Level of Significance: Significant and Unavoidable

Mitigation Measures:

AG-1.1: Agricultural activity will be allowed to continue on lands designated for urban use, until urban development is imminent. (Westside Industrial Specific Plan Land Use Policy LU-P-9)

AG-1.2: An orderly and phased development pattern shall be provided so that farmland is not subjected to premature development pressure.

POTENTIAL IMPACT AG-2: **Implementation of the proposed WISP project may cause a conflict with existing Williamson Act contracts.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

AG-2.1: In approving urban development near existing agricultural lands, the City shall ensure that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations through the adoption of appropriate project-specific mitigation measures.

Residual Level of Significance: **Significant and Unavoidable**

POTENTIAL IMPACT AG-3: **Due to its location or nature, the proposed WISP project may result in conversion of adjacent farmland to non-agricultural uses.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

AG-3.1: The City shall not extend water and sewer lines prematurely to allow urban development that would adversely affect agricultural operations.

AG 3.2: Provide buffers at the interface of urban development and farmland in order to minimize conflicts between these uses.

AG-3.3: Right-to-farm disclosure notices shall be recorded on the title of all new development in the Study Area.

AG 3.4: Developed property adjoining irrigated ground must be graded so that finished grading elevations are at least six (6) inches higher than irrigated ground. A protective berm must be installed to prevent irrigation water from reaching non-irrigated properties. Stub-end streets adjoining irrigated ground must have a

berm installed at least 12 inches above the finished grade of the irrigated parcel(s).

Residual Level of Significance: **Significant and Unavoidable**

AIR QUALITY

POTENTIAL IMPACT AQ-1: **Implementation of the Westside Industrial Specific Plan could conflict with or obstruct implementation of the applicable air quality plan.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

AQ-1.1: Help improve air quality by actively cooperating with the San Joaquin Valley Air Pollution Control District, the California Air Resources Board, and the U.S. Environmental Protection Agency in achieving and maintaining ambient air quality standards. (Westside Industrial Specific Plan Resources Objective 4)

AQ-1.2: Work with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to implement the Air Quality Management Plan (AQMP). (Westside Industrial Specific Plan Resources Policy R-P-16)

AQ-1.3: In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.

Residual Level of Significance: **Less Than Significant with Mitigation**

POTENTIAL IMPACT AQ-2: **Implementation of the Westside Industrial Specific Plan could violate air quality standards, or contribute substantially to the current nonattainment status for ozone and PM10.**

Level of Significance: **Significant and Unavoidable**

Mitigation Measures:

AQ-2.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to **local and**

regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10 and Turlock General Plan Policy 2.5-h)

AQ-2.2: Large projects exceeding the San Joaquin Valley Air Pollution Control District's thresholds of significance for ozone precurors (10 tons per year for reactive organic gases, ROG, and/or oxides of nitrogen (NOx) and are unable to mitigate the project's impacts to a less-than-significant impact in accordance with the District's Guide for Assessing Mitigating Air Quality Impacts (GAMAQI) shall be subject to payment into the City of Turlock's Air Quality Trust Fund. The fund is utilized to pay for projects located throughout the City that improve air quality typically by promoting alternative modes of transportation. (Westside Industrial Specific Plan Resources Policy R-P-21)

Burning Restrictions

AQ-2.3: Burning of any combustible material within the Plan Area shall be strictly controlled to minimize particulate air pollution, and shall occur only on days permitted by the SJVAPCD. (Westside Industrial Specific Plan Resources Policy R-P-20)

Transportation and Circulation

AQ-2.4: Increase opportunities and incentives for carpooling. (Westside Industrial Specific Plan Resources Policy R-P-19)

AQ-2.5: Develop a land use plan that will help to reduce the need for trips and will facilitate the use of public transportation, walking, bicycles, carpooling, and alternative fuel vehicles. (Westside Industrial Specific Plan Resources Policy R-P-25)

AQ-2.6: Locate higher density development such as employment centers and retail along existing and proposed transit corridors. (Westside Industrial Specific Plan Resources Policy R-P-26)

AQ-2.7: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions. (Westside Industrial Specific Plan Resources Policy R-P-27)

AQ-2.8: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycle routes, pedestrian paths, bus transit, and carpooling. (Westside Industrial Specific Plan Resources Policy R-P-28)

AQ-2.9: Reserve appropriate easements to provide for future improvements such as bus turnouts, loading areas, and shelters. (Westside Industrial Specific Plan Resources Policy R-P-29)

AQ-2.10: Maintain acceptable traffic levels of service (LOS) as specified in the General Plan Circulation Element. (Westside Industrial Specific Plan Resources Policy R-P-30)

AQ-2.11: Follow guidelines included in the California Air Resources Board (CARB) October 2000 publication, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

Energy Efficiency

AQ-2.12: Employ energy efficient design, including automated control systems for heating/air conditioning and energy efficiency beyond Title 24 requirements, lighting controls and energy-efficient lighting in buildings, increased insulation beyond Title 24 requirements, and light colored roof material to reflect heat. (Westside Industrial Specific Plan Resources Policy R-P-22)

AQ-2.13: Plant deciduous trees on the south- and west-facing sides of buildings. (Westside Industrial Specific Plan Resources Policy R-P-23)

AQ-2.14: Use low nitrogen oxide (NOx) emitting and/or high efficiency water heaters. (Westside Industrial Specific Plan Resources Policy R-P-24)

Construction Activities

AQ-2.15: Comply with the SJVAPCD Compliance Assistance Bulletin for Fugitive Dust Control at construction sites. (Westside Industrial Specific Plan Resources Policy R-P-34)

AQ-2.16: Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction. (Westside Industrial Specific Plan Resources Policy R-P-35)

AQ-2.17: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. (Westside Industrial Specific Plan Resources Policy R-P-36)

AQ-2.18: Soils stabilization is required at all construction sites after normal working hours and on weekends and holidays, as well as on inactive construction areas during phased construction. Methods include short-term water spraying, and long-term dust suppressants and vegetative cover. (Westside Industrial Specific Plan Resources Policy R-P-37)

AQ-2.19: Construction equipment shall be equipped with particulate filters and/or catalysts, or proof shall be provided as to why it is infeasible. (Westside Industrial Specific Plan Resources Policy R-P-38)

AQ-2.20: Diesel engines shall be shut off while not in use to reduce emissions from idling. Minimize idling time of all other equipment to 10 minutes maximum. (Westside Industrial Specific Plan Resources Policy R-P-39)

AQ-2.21: Sandbags, or other erosion control measures, shall be installed to prevent silt runoff to public roadways from construction sites with a slope greater than one percent (1%). (Westside Industrial Specific Plan Resources Policy R-P-40)

AQ-2.22: Wheels on all trucks and other equipment shall be washed prior to leaving the construction site. (Westside Industrial Specific Plan Resources Policy R-P-41)

AQ-2.23: Wind breaks shall be installed at windward sides of construction areas. (Westside Industrial Specific Plan Resources Policy R-P-42)

AQ-2.24: Suspend excavation and grading activities when winds exceed 20 mph. (Westside Industrial Specific Plan Resources Policy R-P-43)

AQ-2.25: Limit areas subject to excavation, grading, and other construction activities at any one time. (Westside Industrial Specific Plan Resources Policy R-P-44)

AQ-2.26: Limit and expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours. (Westside Industrial Specific Plan Resources Policy R-P-45)

AQ-2.27: Use alternative fuel construction equipment, where feasible. (Westside Industrial Specific Plan Resources Policy R-P-46)

AQ-2.28: Construction activities shall be curtailed during periods of high ambient pollutant concentrations. This may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways, including SR 99. (Westside Industrial Specific Plan Resources Policy R-P-47)

AQ-2.29: Follow guidelines included in the California Air Resources Board (CARB) October 2000 publication, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

POTENTIAL IMPACT AQ-3: **Implementation of the Westside Industrial Specific Plan would result in a cumulatively considerable net increase in ozone and PM10 air pollutants.**

Level of Significance: **Significant and Unavoidable**

POTENTIAL IMPACT AQ-4: **Implementation of the Westside Industrial Specific Plan could result in a substantial increase in toxic air pollutants.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

AQ-4.1: Minimize public exposure to toxic or hazardous air pollutants. (Westside Industrial Specific Plan Resource Policy R-P-17)

AQ-4.2: Comply with the National Emission Standards for Hazardous Air Pollutants (NESHAPS) and the SJVAPCD Compliance Assistance Bulletin, Asbestos Synopsis, during renovation and/or demolition of existing buildings, specifically as it relates to asbestos. (Westside Industrial Specific Plan Resource Policy R-P-18)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT AQ-5: **Implementation of the Westside Industrial Specific Plan could expose sensitive receptors to substantial pollutant concentrations.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

AQ-5.1: Design industrial development to minimize potential community impacts adversely affecting **residential** and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P- 10)

AQ-5.2: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and other sensitive receptors (e.g., homes, schools, and hospitals). (Westside Industrial Specific Plan Resources Policy R-P-31)

AQ-5.4: Buffer zones (setbacks, landscaping) shall be used to protect sensitive receptors from **potential air pollution,** odor and hazardous wastes generated by industrial and manufacturing facilities.

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT AQ-6: Implementation of the Westside Industrial Specific Plan could create objectionable odors affecting a substantial number of people.

Level of Significance: Potentially Significant

Mitigation Measures:

AQ-6.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and **odor**, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10)

AQ-6.2: Minimize public exposure to pollutants that create a public nuisance, such as unpleasant odors. (Westside Industrial Specific Plan Resources Policy R-P-32)

AQ-6.3: Segregate and provide buffers between land uses that typically general hazardous or obnoxious fumes and residential or other sensitive land uses. (Westside Industrial Specific Plan Resources Policy R-P-33)

Residual Level of Significance: Less Than Significant with Mitigation

BIOLOGICAL RESOURCES

POTENTIAL IMPACT B-1: **Implementation of the Westside Industrial Specific Plan (proposed project) could result in the loss of identified special status species.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

B-1.1 If Swainson's hawks are found foraging in an agricultural area prior to or during construction, project proponents shall consult a qualified biologist for recommended proper action, and incorporate appropriate mitigation measures. (Westside Industrial Specific Plan Resources Policy R-P-1)

B-1.2 Project proponents shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies. (Westside Industrial Specific Plan Resources Policy R-P-2)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT B-2: **Implementation of the Westside Industrial Specific Plan (WISP) could result in the loss of riparian habitat or other sensitive natural communities.**

Level of Significance: **No Impact**

POTENTIAL IMPACT B-3: **The Westside Industrial Specific Plan (WISP) may have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, or hydrological interruption.**

Level of Significance: **No Impact**

POTENTIAL IMPACT B-4: **Implementation of the Westside Industrial Specific Plan (WISP) could substantially interfere with the movement of wildlife species or with established native or migratory wildlife corridors.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

B-4.1 Project proponents shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies, and incorporation of appropriate mitigation measures. (Westside Industrial Specific Plan Resources Policy R-P-2)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT B-5: **The proposed WISP project may conflict with local policies or ordinances protecting biological resources.**

Level of Significance: **No Impact**

POTENTIAL IMPACT B-6: **Impacts on biological resources from the buildout of the WISP Study Area may be cumulatively significant.**

Level of Significance: **Significant**

CULTURAL RESOURCES

POTENTIAL IMPACT C-1: **Implementation of the Westside Industrial Specific Plan (proposed project) may cause a substantial adverse change in the significance of known and unknown historical resources.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

C-1.1 The one previously recorded historic site within the WISP Study Area, a segment of the Tidewater Southern Railway, shall be protected in compliance with State guidelines listed above in Section 7.3.2. Protection measures may include, but are not limited to: planning construction to avoid the resource; incorporation of the site within parks or other open space; or deeding the site into a permanent conservation easement.

C-1.2 In accordance with State Law, if any historical resources are found during construction, work is to stop, and the City of Turlock and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find. (Westside Industrial Specific Plan Resources Policy R-P-50)

C-1.3 The existing structures identified as potentially eligible for the California Register of Historic Resources shall be evaluated by a qualified archaeologist or historian prior to proposed development on that property. Proper action as recommended by the qualified archaeologist or historian shall be considered in the proposed development process. (Westside Industrial Specific Plan Resources Policy R-P-51)

C-1.4 Where historically significant structures cannot be preserved in tact, the project proponent should seek to preserve the building facades. At a minimum, the structures shall be photographed for the City's historic archives. (Westside Industrial Specific Plan Resources Policy R-P-52)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT C-2: **Implementation of the Westside Industrial Specific Plan (proposed project) may cause a substantial adverse change in the significance of known and unknown archaeological or unique paleontological resources.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

C-2.1 If previously unrecorded archaeological resources, as defined by State Law are discovered, construction activities shall be suspended and a qualified archaeologist shall be called to evaluate the find and to recommend proper action. (Westside Industrial Specific Plan Resources Policy R-P-48)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT C-3: **Implementation of the proposed WISP project could disturb human remains, including those interred outside of formal cemeteries.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

C-3.1 If human remains are discovered, California Health and Safety Code Section 7050.5 states that 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 coroner determines that no investigation of the cause of death is required and if the remains are of Native American origin, the coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner appropriate disposition of the remains and any grave goods. (Westside Industrial Specific Plan Resources Policy R-P-49)

Residual Level of Significance: **Less Than Significant With Mitigation**

GEOLOGY, SOILS, AND SEISMICITY

POTENTIAL IMPACT GSS-1: **Implementation of the proposed Westside Industrial Specific Plan project may expose people and structures to rupture of a known earthquake, as delineated on the Alquist-Priolo Earthquake Fault Zoning Map.**

Level of Significance: **Less Than Significant Impact**

POTENTIAL IMPACT GSS-2: **Implementation of the WISP project may expose people and structures to ground shaking, ground failure (including liquefaction) or landslides.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

GSS-2.1: Comply with the current Uniform Building Code (UBC) requirements for Seismic Zone 3, which stipulates building structural material and reinforcement.

GSS-2.2: Comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces caused earthquakes and wind.

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT GSS-3: **Implementation of the WISP project may result in substantial soil erosion of loss of topsoil.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

GSS-3.1: Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow. (Westside Industrial Specific Plan Resources Policy R-P-3)

GSS-3.2: Comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control. (Westside Industrial Specific Plan Resources Policy R-P-5)

GSS-3.3: Comply with all erosion control measures listed in the Air Quality, and Hydrology and Water Quality sections of this document. (Westside Industrial Specific Plan Resources Policy R-P-6)

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT GSS-4: Implementation of the General Plan 2023 may expose people and structures to the hazards of expansive soils.

Level of Significance: Potentially Significant

Mitigation Measures:

GSS-4.1: Comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specified soils types. (Westside Industrial Specific Plan Resources Policy R-P-4)

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT GSS-5: Septic tanks or alternative waste water systems could be placed in soils incapable of supporting their use.

Level of Significance: No Impact

HAZARDOUS MATERIALS

POTENTIAL IMPACT HM-1: The proposed Westside Industrial Specific Plan (WISP) could expose existing and future residents to increased risk resulting from the routine use, production, transport, or disposal of hazardous materials.

Level of Significance: **Potentially Significant**

Mitigation Measures:

HM-1.1 The City will evaluate the potential detrimental effect, if any, from locating a hazardous waste management site in the Plan Area, and if appropriate, will seek amendment of the Stanislaus County Hazardous Waste Management Plan (CHWMP) to eliminate for any future consideration the southwest quadrant of the City as a candidate location of a hazardous waste management facility. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-49)

HM-1.2 All new development is required to meet the fire protection standards established by the City. Typical standards include, but are not limited to:

- Sprinklers in buildings 5,000 square feet and larger;
- On-site hydrants;
- Adequate emergency access to buildings;
- **Hazardous materials plans**.

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-62)

HM-1.3 All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

HM-1.4 All new development shall comply with federal, State, San Joaquin Valley APCD, County, and City policies regulating the production, use, transport and/or disposal of hazardous materials, including complying with all permit requirements.

HM-1.5 Require land uses that produce, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities. The list shall be maintained through the Turlock Fire Department and updated through periodic review.

"Significant quantities" has been defined by the Stanislaus County Department of Environmental Resources as hazardous materials in excess of 55 gallons or 500 pounds of a hazardous material, or of 200 cubic feet of compressed gas.

HM-1.6 City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

HM-1.7 The City shall maintain an awareness of hazardous materials throughout the City.

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT HM-2: The existing and future residents of the City of Turlock could be exposed to increased risk of accidental release of hazardous materials.

Level of Significance: Potentially Significant

Mitigation Measures:

HM-2.1 Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses. (Westside Industrial Specific Plan Resources Policy R-P-33)

HM-2.2 Cooperate fully with Union Pacific Railroad and other public agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

HM-2.3 Cooperate with Stanislaus County Department of Environmental Resources in identifying hazardous material users and in developing a Hazardous Materials Management Plan.

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT HM-3: Use and possible emission of hazardous materials within one-quarter mile of an existing or proposed school could occur.

Level of Significance: Less Than Significant

POTENTIAL IMPACT HM-4: **Placing development on a site which included on the Cortese list of hazardous materials would create a significant impact.**

Level of Significance: **No Impact**

POTENTIAL IMPACT HM-5: **The proposed WISP project could interfere with emergency response or evacuation procedures.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

HM-5.1 All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

HM-5.2 Cooperate fully with Union Pacific Railroad and other public agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

HM-5.3 The City shall review County and State emergency response procedures that must be coordinated with City procedures.

Residual Level of Significance: **Less Than Significant With Mitigation**

HYDROLOGY AND WATER QUALITY

POTENTIAL IMPACT HWQ-1: **Planned development in the Westside Industrial Specific Plan (WISP) could violate water quality standards or waste discharge requirements.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

HWQ-1.1: Industrial uses that require water for processing or cooling shall submit a wastewater budget to Municipal Services. The wastewater budget shall indicate

the total wastewater demand, **the quality of the wastewater**, and the opportunities for wastewater re-use and water conservation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-41)

HWQ-1.2: Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality. (Westside Industrial Specific Plan Resources Policy R-R-7)

Residual Level of Significance: **Less than Significant with Mitigation**

POTENTIAL IMPACT HWQ-2: **Planned development in the WISP could substantially deplete groundwater supplies or interfere with groundwater recharge.**

Level of Significance: **Potentially Significant**

HWQ-2.1: Strive to develop public infrastructure that utilizes **water** and energy **resources** in a conservative, sustainable manner. (Westside Industrial Specific Plan Infrastructure and Services Objective 4)

HWQ-2.2: Maintain and protect the quality of groundwater resources. (Westside Industrial Specific Plan Infrastructure and Services Objective 5)

HWQ-2.3: Encourage water conservation in industrial processes by making reclaimed wastewater available for cooling, and other industrial use in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-38)

HWQ-2.4: Consider the feasibility of the extension of reclaimed wastewater distribution systems where new sewer and water lines are being constructed in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-39)

HWQ-2.5: Encourage potable water conservation in site landscaping and streetscape landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-40)

Residual Level of Significance: **Less than Significant with Mitigation**

POTENTIAL IMPACT HWQ-3: Implementation of the WISP could alter the existing drainage pattern, or increase the rate of runoff that could result in flooding.

Level of Significance: **Potentially Significant**

Mitigation Measures:

HWQ-3.1: The City shall design the Dianne Drive detention basin for joint recreation and **storm water management use**. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-43)

HWQ-3.2: On-site storm water detention shall be provided on any site larger than two acres, and shall be designed for future connection to the City's storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-44)

HWQ-3.3: Site grading shall be designed to create positive drainage throughout the site and to collect the storm water for the storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-47)

HWQ-3.4: Large commercial and industrial water users shall submit a water use and conservation plan as part of the project entitlement review and approval process, and shall develop a program to monitor compliance with and effectiveness of that plan. (Westside Industrial Specific Plan Resources Policy R-P-8)

HWQ-3.5: Actively pursue the use of treated wastewater in irrigation and industrial applications, including development of appropriate infrastructure. (Westside Industrial Specific Plan Resources Policy R-P-9)

Residual Level of Significance: **Less than Significant with Mitigation**

POTENTIAL IMPACT HWQ-4: Runoff from new development and impervious surfaces would contain urban contaminants that could affect receiving water quality.

Level of Significance: **Potentially Significant**

Mitigation Measures:

HWQ-4.3: Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality. (Westside Industrial Specific Plan Resources Policy R-P-7)

HWQ-4.4: The discharge of oil, gasoline, diesel fuel, or any other petroleum derivative, or any toxic chemical or hazardous waste is prohibited. (Westside Industrial Specific Plan Resources Policy R-P-10)

HWQ-4.5: Materials and equipment shall be stored so as to ensure that spills or leaks cannot enter storm drains, or the drainage ditches or detention basins. (Westside Industrial Specific Plan Resources Policy R-P-11)

HWQ-4.6: A spill prevention and cleanup plan shall be implemented. (Westside Industrial Specific Plan Resources Policy R-P-12)

HWQ-4.7: Future industrial and commercial employers/employees shall be educated about prevention of urban contaminants entering storm drains, or the drainage ditches or detention basin. (Westside Industrial Specific Plan Resources Policy R-P-13)

HWQ-4.8: Maintain buffer areas between drainage ditches and detention basins, and urban development to protect water quality. (Westside Industrial Specific Plan Resources Policy R-P-14)

HWQ-4.9: Utilize cost-effective urban runoff controls, including Best Management Practices (BMP's) to limit urban pollutants from entering the drainage ditches and detention basins. BMP's shall include:

Construction BMP's

DS 1 During construction, temporary gravel, hay bale, earthen, or sand bag dikes and/or non-woven filter fabric fence, shall be used as necessary to prevent uncontrolled runoff that could enter storm drains, or the drainage ditches or detention basin.

DS 2 Surplus or waste material and/or fill of earthen material shall not be placed in the storm drains, or the drainage ditches or detention basins.

DS 3 All loose piles of soil, silt, clay, sand, debris, or other earthen materials shall be protected in a reasonable manner to prevent the discharge of these materials off-site, or into storm drains, or the drainage ditches or detention basins.

DS 4 After completion of a construction project, all surplus or waste earthen materials shall be removed form the site and deposited in an approved disposal location, or stabilized on-site.

DS 5 Fresh concrete or grout shall not be allowed to contact or enter drains, or the drainage ditches or detention basins.

DS 6 Dewatering should be done in a manner so as to eliminate the discharge of earthen materials off-site, or into storm drains, or the drainage ditches or detention basins.

DS 7 Any constructed drainage swales and catchment/infiltration areas should be stabilized by appropriate soils stabilization measures to prevent erosion.

DS 8 Dust shall be controlled to prevent the transport of such material off the project site or into storm drains, or the drainage ditches or detention basins.

DS 9 All disturbed areas shall be adequately re-stabilized or re-vegetated. Re-vegetated areas shall be continually maintained until vegetation becomes established.

DS 10 All non-construction areas should be protected by fencing or other means to prevent unnecessary disturbance. These boundary facilities shall be inspected periodically and shall be repaired when necessary.

Post-Construction (Project) BMP's

DS 11 Traps, filters, or other devices at drop inlets shall be installed to prevent contaminants from entering storm drains.

DS 12 All surface flow from the project site shall be controlled to prevent erosion.

DS 13 Culvert outlets shall be located on natural soil, not on fill.

(Westside Industrial Specific Plan Resources Policy R-P-15)

HWQ-4.1: The incorporation of grassy swales and other best management practices are encouraged to filter storm water. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-46)

HWQ-4.10: Water quality swales shall be landscaped with appropriate erosion control plant materials. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-48)

Residual Level of Significance: Less Than Significant With Mitigation

POTENTIAL IMPACT HWQ-5:	**Implementation of the proposed WISP project could expose people of structures to inundation by seiche or mudflow.**
Level of Significance:	**Less Than Significant**

LAND USE AND PLANNING

POTENTIAL IMPACT LU-1:	**Proposed WISP land use would divide an existing community.**
Level of Significance:	**No Impact**

POTENTIAL IMPACT LU-2:	**The proposed WISP project would conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.**
Level of Significance:	**No Impact**

POTENTIAL IMPACT LU-3:	**The proposed WISP project would conflict with any applicable habitat conservation plan or natural community conservation plan.**
Level of Significance:	**No Impact**

POTENTIAL IMPACT LU-4:	**The proposed WISP project would create conflicts between incompatible land uses.**
Level of Significance:	**Potentially Significant**

Mitigation Measures:

LU-4.1 Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P- 10 and General Plan Policy 2.5-h)

LU-4.2 Buffer industrial and heavy commercial areas from adjacent residential, commercial and recreation areas. (Westside Industrial Specific Plan Land Use Policy LU-P 11 and General Plan Policy 2.5-i)

LU-4.3 Where industrial uses are adjacent to non-industrial uses, appropriate buffering techniques such as set backs, screening, and landscaping need to be provided to mitigate any negative effects of industrial operations.. (Westside Industrial Specific Plan Land Use Policy LU-P 15)

LU-4.4 Wooden or open vertical metal (wrought iron style) fences shall be located at the interface of urban and agricultural uses. Wire mesh is not acceptable.

Residual Level of Significance: **Less Than Significant With Mitigation**

NOISE

POTENTIAL IMPACT N-1: **Planned development in the proposed Westside Industrial Specific Plan (WISP) could result in exposure of persons to noise levels in excess of established standards.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-1.1: Require stationary noise sources proposed in areas adjacent to noise-sensitive uses to be mitigated so as to not exceed the noise level performance standards. (Westside Industrial Specific Plan Resources Policy R-P-53)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT N-2: **Implementation of the proposed WISP project could expose people to the impacts of construction noise.**

Level of Significance: **Less Than Significant**

POTENTIAL IMPACT N-3: **Implementation of the proposed WISP project could expose residents adjacent to the Study Area to the impact of future roadway traffic noise.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-3.1: Work in cooperation with the **City,** Caltrans, and the Union Pacific Railroad to maintain noise level standards for the Plan Area in compliance with adopted noise standards. (Westside Industrial Specific Plan Resources Policy R-P-54)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT N-4: **Implementation of the proposed WISP project could expose residents to the impact of railroad noise.**

Level of Significance: **Less Than Significant**

Potential Impact N-5: **Implementation of the proposed WISP project could expose residents adjacent to the Study Area to the impacts of future industrial and commercial noise.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-5.1 Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local

and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and **noise levels**. (Westside Industrial Specific Plan Land Use Policy LU-P- 10)

N-5.2 New industrial and commercial development with actual or projected exterior noise levels or greater than 60 dB Ldn, shall be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB Ldn. (Westside Industrial Specific Plan Resources Policy R-P-55).

N-5.3 Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, sound walls, enclosing certain noise creating equipment/activities, use of muffling or silencing equipment as necessary to ensure compliance with the City of Turlock Noise Standards. (Westside Industrial Specific Plan Resources Policy R-P-56).

N-5.4 Noise-producing equipment shall be set back from the noise-sensitive property line to the maximum practical extent. (Westside Industrial Specific Plan Resources Policy R-P-57).

N-5.5 Operation of mechanical refrigeration units on trucks shall be prohibited during loading/unloading in areas adjacent to noise-sensitive uses. (Westside Industrial Specific Plan Resources Policy R-P-58).

N-5.6 On-site vehicles such as forklifts shall be required to have and maintain adequate mufflers. (Westside Industrial Specific Plan Resources Policy R-P-59).

Residual Level of Significance: Less Than Significant With Mitigation

POPULATION AND HOUSING

POTENTIAL IMPACT H-1: Implementation of the Westside Industrial Specific Plan (WISP) would increase the City's population over existing conditions.

Level of Significance: Less Than Significant

POTENTIAL IMPACT H-2: The Westside Industrial Specific Plan (WISP) project will exacerbate the existing jobs/housing imbalance.

Level of Significance: Beneficial Impact

PUBLIC FACILITIES AND SERVICES

POTENTIAL IMPACT PFS-1: The Westside Industrial Specific Plan (WISP) would create a demand for domestic water beyond current entitlements, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-1.1: Implement innovative technologies for communications, **water** and energy **conservation** in site design and building architecture. (Westside Industrial Specific Plan Land Use Objective 7)

PFS-1.2: New infrastructure systems shall be designed with consideration of life-cycle costs, and shall be innovative in **conserving and recycling water** and energy. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-37)

PFS-1.3: Encourage water conservation in industrial processes by making reclaimed water available for cooling, and other industrial use in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-38)

PFS-1.4: Consider the feasibility of the extension of reclaimed water distribution systems where new sewer and water lines are being constructed in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-39)

PFS-1.5: Encourage potable water conservation in site landscaping and streetscape landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-40)

PFS-1.6: Project proponents shall comply with the requirements of the 1991Landscape Water Conservation and Irrigation Guidelines, as amended.

PFS-1.7: The City shall require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

Residual Level of Significance: Less than Significant with Mitigation

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POTENTIAL IMPACT PFS-2: The Westside Industrial Specific Plan (WISP) would create a demand for wastewater (sewer) treatment beyond capacity of current facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-2.1: Industrial uses that require water for processing or cooling shall submit a water budget to the Municipal Services. The water budget shall indicate the total water demand, the quality of the water, and the opportunities for water re-use and water conservation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-41)

PFS-2.2: Septic tanks are prohibited in the Plan Area with the following exceptions:

- Existing single family dwellings
- Interim industrial uses pending completion of the municipal wastewater collection system. Such interim uses may not extend beyond two years. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-42)

PFS-2.3: The City will promote reduced water system demand through efficient water use by:

- Requiring water conserving design and equipment in new construction;
- Encouraging retrofitting with water conserving devices; and
- Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible.

PFS-2.4: Business Park and other industrial uses shall provide an evaluation of opportunities for an industrial pretreatment program in accordance with California State and federal requirements.

Residual Level of Significance: Less than Significant with Mitigation

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POTENTIAL IMPACT PFS-3: The Westside Industrial Specific Plan (WISP) project would create a demand for storm water drainage beyond capacity of current facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-3.1: Storm water management (and detention basins where necessary) shall be included in the site design for each development. (Westside Industrial Specific Plan Urban Design Policy UD-P-1)

PFS-3.2: Parking areas and driveways may be used for storm water detention. (Westside Industrial Specific Plan Urban Design Policy UD-P-4)

PFS-3.3: The City shall design the Dianne Drive Detention basin for joint open space/recreation and storm water management use. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-43)

PFS-3.4: On-site storm water detention shall be provided on any site larger than two acres, and shall be designed for future connection to the City's storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-44)

PFS-3.5: The incorporation of grassy swales and other best management practices are encouraged to filter storm water (Westside Industrial Specific Plan Urban Design Policy UD-P-3; Infrastructure and Services Policy I-P-46)

PFS-3.6: Site grading shall be designed to create positive drainage throughout the site and to collect the storm water for the storm water drainage system. (Westside Industrial Specific Plan Urban Design Standard DS 1; Infrastructure and Services Policy I-P-47)

PFS-3.7: Water quality swales shall be landscaped with appropriate erosion control plant materials. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-48)

PFS-3.8: The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the 1988 Storm Drain Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of storm water runoff resulting from each development.

Residual Level of Significance: Less than Significant with Mitigation

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POTENTIAL IMPACT PFS-4: The Westside Industrial Specific Plan (WISP) would create a demand for solid waste services beyond the capacity of current landfill facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Less Than Significant

Mitigation Measures:

PFS-4.1: The City will encourage industrial development that utilizes solid waste material for recycling or co-generation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-50)

POTENTIAL IMPACT PFS-5: The Westside Industrial Specific Plan (WISP) would not comply with statutes and regulations related to solid waste.

Level of Significance: Less Than Significant

POTENTIAL IMPACT PFS-6: Implementation of the Westside Industrial Specific Plan (WISP) would require additional facilities and Level of Service (LOS) for police protection, fire protection, and parks.

Police and Fire Protection:

Level of Significance: **Potentially Significant**

Mitigation Measures:

PFS-6.1: All new development is required to meet the fire protection standards established by the City. Typical standards include, but are not limited to:

- Sprinklers in buildings 5,000 square feet and larger;
- On-site hydrants;
- Adequate emergency access to buildings;
- Hazardous materials plans.

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-62)

PFS-6.2: All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

Parks and Recreation:

Level of Significance: **Potentially Significant**

Mitigation Measures:

PFS-6.3: The detention basin at Dianne Drive and Canal Drive will be designed to allow for future improvement as a recreation facility. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-64)

PFS-6.4: The portion of any industrial, industrial-business professional, office or commercial site allocated specifically to basketball courts, picnic areas, and similar employee oriented recreation facilities shall be included in the landscape area requirement for that use, provided that the landscape facility is fully improved with landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-65)

Residual Level of Significance: **Less than Significant with Mitigation**

POTENTIAL IMPACT PFS-7: The Westside Industrial Specific Plan (WISP) would require expanded energy sources and infrastructure for expanded urban development.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-7.1: Maintain coordination between land development and expansion of public utilities and streets to ensure that utilities are available in a timely manner. (Westside Industrial Specific Plan Land Use Objective 6)

PFS-7.2: Implement innovative technologies for communications, water and **energy conservation** in site design and building architecture. (Westside Industrial Specific Plan Land Use Objective 7)

PFS-7.3: Passive solar design is encouraged whenever possible. Design of buildings shall demonstrate consideration of energy-efficient concepts such as natural heating and/or cooling, sun and wind exposure and orientation, and other solar energy opportunities. (Westside Industrial Specific Plan Urban Design Policy UD-P-7)

PFS-7.4: Life-cycle costs of buildings shall be considered in the design of all buildings. (Westside Industrial Specific Plan Urban Design Policy UD-P-8)

PFS-7.5: Use of wind and thermal mass to heat and cool structures and public spaces shall be considered in the design of all buildings. (Westside Industrial Specific Plan Urban Design Policy UD-P-9)

PFS-7.6: Application of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System is encouraged. (Westside Industrial Specific Plan Urban Design Policy UD-P-10)

PFS-7.7: Buildings adjoining public spaces, such as along a pedestrian promenade, shall be designed to provide sun to walkways and primary gathering areas in the winter. (Westside Industrial Specific Plan Urban Design Standard DS 4.)

PFS-7.8: Sun shade structures such as building overhangs, verandas, trellises and porticoes shall be incorporated in the design of all buildings at the primary entry and pedestrian approaches to all buildings. (Westside Industrial Specific Plan Urban Design Standard DS 5)

PFS-7.9: New infrastructure systems shall be designed with consideration of life-cycle costs, and shall be innovative in **conserving** and recycling water and **energy**. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-37)

PFS-7.10: The City will work with TID to ensure that the local electricity distribution grid is in place in a timely manner to serve new users. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-51)

PFS-7.11: The City will encourage the use of energy conserving design in landscaping and architecture to reduce building heating and cooling loads. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-52)

PFS-7.12: Employ energy efficient design, including automated control systems for heating/air conditioning and energy efficiency beyond Title 24 requirements, lighting controls and energy-efficient lighting in buildings, increased insulation beyond title 24 requirements, and light colored roof materials to reflect heat. (Westside Industrial Specific Plan Resources Policy R-P-22)

PFS-7.13: Plant deciduous trees on the south- and west-facing sides of buildings. (Westside Industrial Specific Plan Resources Policy R-P-23)

Residual Level of Significance: Significant and Unavoidable

TRAFFIC AND CIRCULATION

POTENTIAL IMPACT TC-1: The proposed Westside Industrial Specific Plan (WISP) would cause an increase in traffic which exceeds existing traffic load and street system capacity, including intersections.

Level of Significance: Potentially Significant

Mitigation Measures:

TC-1.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, **local traffic conditions**, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10)

TC-1.2: Develop a comprehensive transportation system to provide convenient and quick access to the work place, which minimizes commute time and costs. (Westside Industrial Specific Plan Objective 9)

TC-1.3: Provide convenient access to personal services and conveniences near the work place, such as day care, medical and dental care, banking, professional services recreation, retail shops and restaurants. (Westside Industrial Specific Plan Objective 10)

TC-1.4: Strive to maintain a minimum Level of Service Standard C on all roadway segments in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 1)

TC-1.5: Strive to maintain a minimum Level of Service Standard D in the PM Peak Hour on all intersections in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 2)

TC-1.6: Protect the rail corridor to ensure that rail service continues to be available in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 6)

TC-1.7: Accommodate truck traffic. (Westside Industrial Specific Plan Transportation Objective 7)

TC-1.8: Create efficient, interconnected street patterns. (Westside Industrial Specific Plan Transportation Objective 8)

TC-1.9: Continue to monitor traffic service levels and implement improvements prior to deterioration in levels of service to below the stated standard. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-1)

TC-1.10: Business Park streets shall be continuous between primary streets, or between primary streets and other business park streets. Cul-de-sac streets will be allowed only where physical barriers prohibit continuous streets. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-6)

TC-1.11: Washington Road shall be designated as an Expressway between Keyes Road and W. Harding Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-10)

TC-1.12: Developments along Tegner Road, Washington Road and West Main Street shall be required to consolidate or limit driveways in order to minimize traffic conflicts consistent with General Plan Table 5.2-B, Expressway Design and Access Standards. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-11)

Traffic System Management (TSM): TSM measures help improve traffic flow through various actions and road improvements aimed at reducing traffic congestion, increasing average vehicle speeds, and smoothing traffic flow.

TC-1.13: The backbone traffic management system will be implemented with the first phase of development of the Plan Area and will be expanded as the Plan Area develops subject to the review and approval of the system by the City Engineer. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-27)

TC-1.14: Future SR 99 interchange improvements shall provide for traffic system management measures. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-28)

Rail: Rail freight service reduces the number of trucks and other delivery vehicles required.

TC-1.15: The design of circulation improvements, notably street extensions and expansions, shall consider the effect on the continued viability of the rail spur. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-29)

TC-1.16: Preserve and protect rail access that serves sites suitable for rail dependent industries. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-31)

TC-1.17: Prohibit uses that undermine the viability of rail operations. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-32)

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT TC-2: **The proposed WISP project would substantially increase hazards due to incompatible uses, such as conflicts between local employee traffic and pedestrians with heavy trucks, rail freight service, as well as with farm equipment that will continue to operate for a time within the Study Area.**

Level of Significance: Potentially Significant

Mitigation Measures:

TC-3.1: Provide development sites that are appropriate to the industrial and commercial user needs in terms of access, the size and configuration of available land parcels, availability of suitable buildings, and **compatibility with surrounding land use.** (Westside Industrial Specific Plan Objective 6)

TC-3.2: Separate heavy truck traffic from local employee traffic and pedestrians**.** (Westside Industrial Specific Plan Transportation Objective 3)

TC-3.3: Emphasize routes for major truck traffic and out-of-area employees on the west side of the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-3)

TC-3.4: Emphasize access for resident employees on east-west circulation, notably Fulkerth Road, West Canal Drive, Castor Street and West Linwood Avenue. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-4)

TC-3.5: Truck traffic, other than local delivery trucks, shall be limited to the primary streets: Fulkerth Road, West Main Street, West Linwood Avenue, South Walnut Avenue, Washington Road and Tegner Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-7)

TC-3.6: Incorporate provisions for trucks in the design of designated truck routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-8 and General Plan Policy 5.6-c)

TC-3.7: Establish a signage system to direct trucks to the designated routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-9 and General Plan Policy 5.6-e)

TC-3.8: The streets within the Business Park must accommodate the flow of trucks and peak employee traffic. The first application for development in the Business Park shall include a circulation street network for the entire Business Park. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-12)

TC-3.9: Continue the ongoing comprehensive program to improve the condition and safety of existing railroad crossings by upgrading surface conditions and installing signs and signals where warranted. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-30 and General Plan Policy 5.6-j)

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT TC-3: The proposed WISP project would result in inadequate emergency access.

Level of Significance: Potentially Significant

Mitigation Measures:

TC-4.1: Create efficient, interconnected street patterns. (Westside Industrial Specific Plan Transportation Objective 8)

TC-4.2: Local streets shall align with the existing rectangular grid pattern where feasible. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-2)

TC-4.3: Local streets shall be continuous and connect with cross streets consistent with General Plan Implementing Policy 7.4-e. Cul-de-sac streets are prohibited unless there is no viable alternative. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-5)

Residual Level of Significance: Less Than Significant With Mitigation

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POTENTIAL IMPACT TC-4: The proposed WISP project would result in inadequate parking capacity.

Level of Significance: Less Than Significant

POTENTIAL IMPACT TC-5: The proposed WISP project would conflict with adopted programs supporting alternative transportation.

Level of Significance: Potentially Significant

Mitigation Measures:

TC-6.1: Expand opportunities for employees to commute to work via public transportation, local shuttle services, alternative vehicles, and bicycling. (Westside Industrial Specific Plan Transportation Objective 5)

TC-6.2: The City shall, through the terms of any discretionary or administrative approval of projects in the General Commercial, Commercial Office, Industrial and Industrial-Business Park land use, encourage employers to cooperate with Stanislaus Council of Governments by making information on rideshare, transit and other travel alternatives available to employees. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-26)

Pedestrian Paths and Bikeways

TC-6.3: The sidewalks must be designed to enable patrons to walk to the commercial centers from their place of employment or residence during

suitable weather. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-15)

TC-6.4: The pedestrian path system shall connect conveniently and directly to the location of any stop along a public transit route adjacent to the commercial center. Shaded streetscapes shall be provided to encourage non-motorized transportation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-16)

TC-6.5: Class II bike paths will be provided on all primary and secondary streets in the Plan Area. This includes:

- Fulkerth Road
- West Main Street (east of Tegner Road
- West Linwood Avenue (east of Tegner Road)
- Walnut Avenue, Dianne Drive, and Tegner Road
- W. Tuolumne Road Over-crossing

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-17)

TC-6.6: Class I bike paths will be included in the Plan Area in the following location:

- West Canal Drive between SR 99 and Tegner Road

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-18)

TC-6.7: Street and driveway crossings along the designated Class I bike paths shall be minimized. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-19)

TC-6.8: A parking area for the bike path system shall be located at the detention pond area on the south side of the future extension of Canal Drive, East of Dianne Drive. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-20)

Public Transit

TC-6.9: The public transit routes shall be designed to provide convenient commute service from the residential areas to the employment center. Fulkerth Road, Tegner Road, West Main Street, Dianne Drive, Canal Drive and Washington shall be considered potential routes for any future public transit system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-21)

TC-6.10: All Commercial Office (CO), Community Commercial (CC) and Industrial Business Professional (I-BP) land uses located beyond the intersection of arterial streets shall provide space to accommodate a

transit stop beyond the intersection consistent with Standard ST-16 subject to approval by the City Engineer. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-22)

TC-6.11: All Commercial Office (CO), Community Commercial (CC) and Industrial Business Professional (I-BP) land uses shall provide a pedestrian path consistent with ADA requirements that connects the primary building entry to the public ROW. The pedestrian path shall terminate on the public ROW within 400 feet of any transit stop located along the project frontage. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-23)

TC-6.12: The City Engineer shall consider the location of pedestrian routes and bike routes in approving the location of transit stops in order to facilitate convenient connections between transit and major pedestrian/bike routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-24)

TC-6.13: A transit hub that would serve the Plan Area should be located near the highest concentration of potential employment. Opportunities would exist along the future extension of Tegner Road between West Main Street and Fulkerth Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-25)

Neighborhood Vehicles (Light Electric-Powered Vehicles)

TC-6.14: All secondary streets shall be designed and posted for speeds of 25 miles per hour, or less to allow Neighborhood Electric Vehicles to circulate through the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-13)

TC-6.15: Canal Drive will be the preferred route over SR 99 for neighborhood electric vehicles and shall be posted for not more than 25 mph. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-14)

Residual Level of Significance: Less Than Significant With Mitigation

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References:

(1) Mines and Mineral Producers Active in California (1997-1998). Special Publication 103. California Department of Conservation, Division of Mines and Geology. Revised 1999.

2. PROJECT AND ALTERNATIVES DESCRIPTION

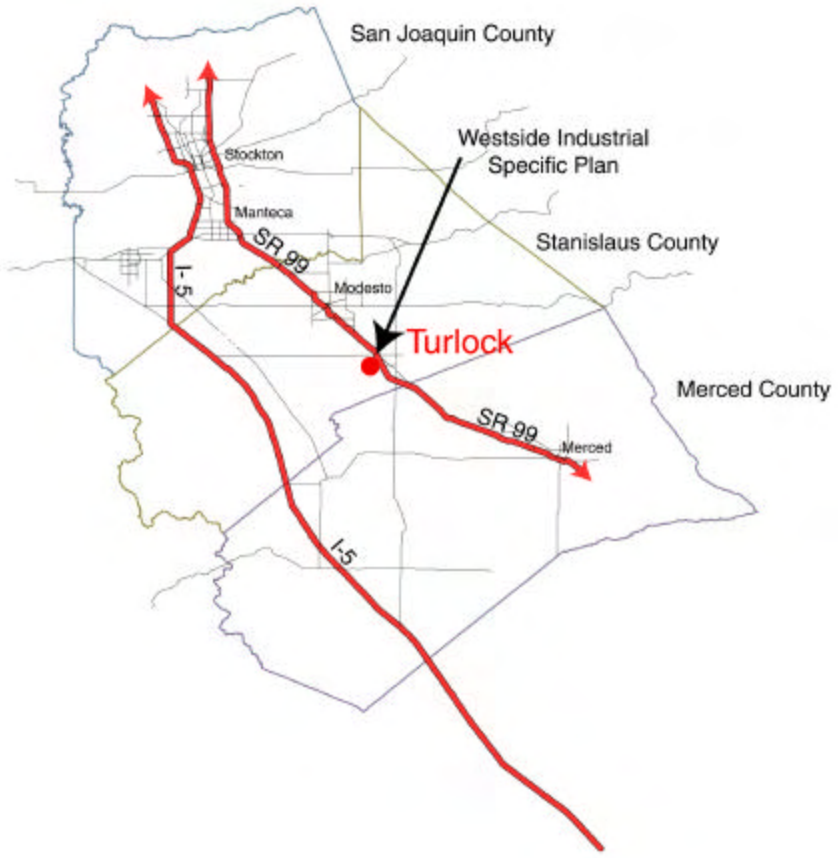
This section describes the Westside Industrial Specific Plan (WISP), as well as the project alternatives which are analyzed in Section 16 of this EIR.

2.1 STUDY AREA CONTEXT

2.1.1 Regional Setting

The City of Turlock is located in Stanislaus County within the northern portion of the San Joaquin Valley, which is the southern portion of California's Great Central Valley.

Figure 2-1 Regional Location Map



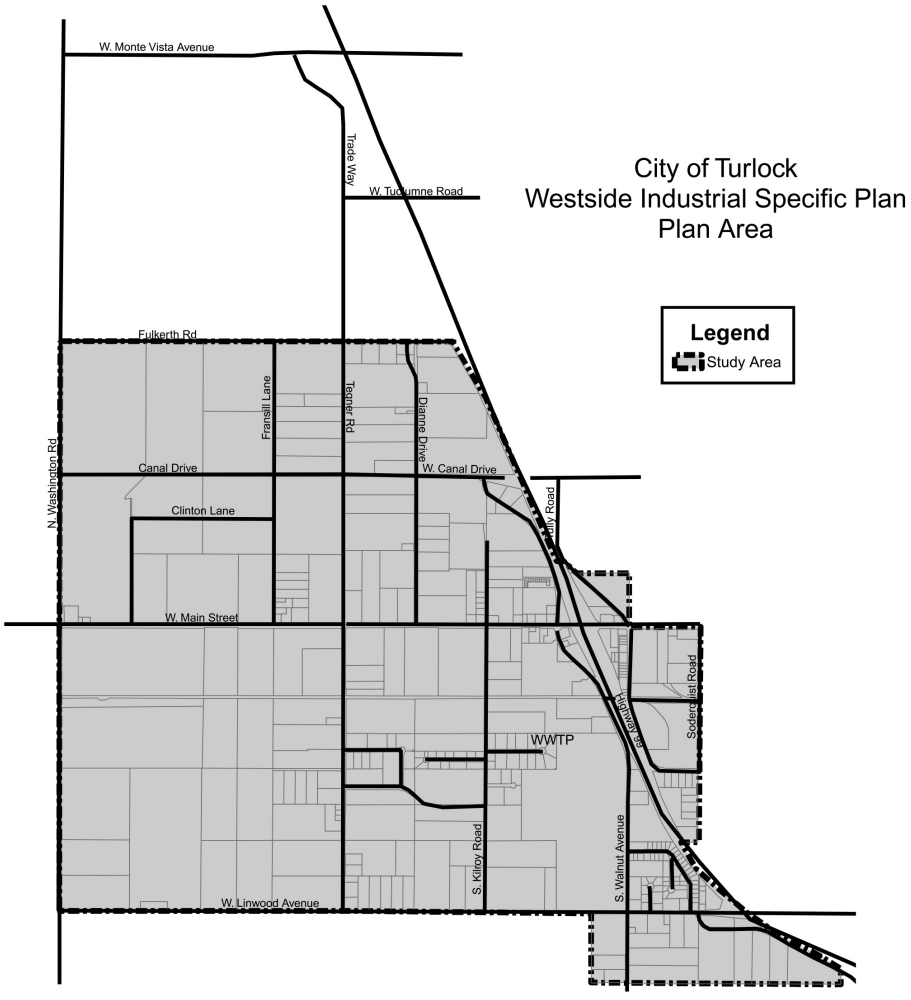
2.1.2 Study Area

The Study Area is adjacent to State Route 99, the primary circulation spine on the east side of the Central Valley.

The Study Area is generally bounded on the north by Fulkerth Road, on the south by West Linwood Avenue, and on the west by Washington Road. A small portion of the Study Area lies east of SR 99 bounded by West Main Street and Soderquist Road.

Approximately 58 percent of the Study Area is within the incorporated boundary of the City of Turlock. The City will annex the adjacent Stanislaus County unincorporated area as the Study Area develops.

Figure 2-2 Project Area Boundary



2.2 PROJECT DESCRIPTION

The Turlock General Plan designates the WISP Study Area as the primary location for new job growth in the City. The fundamental purpose of the project is to implement the General Plan and expand and diversify the existing industrial area in the City of Turlock.

The Specific Plan will accommodate three primary land use components.

- Additional light and heavy industrial uses similar to those currently located there. The Plan will also encourage the development of an Agri-Science Industry Cluster (referred to as the "Agri-Science Cluster"). The Specific Plan defines the Cluster as a center for research and development, manufacture, processing, and celebration of agriculture and food products in the San Joaquin Valley.
- Office and research and development uses.
- Commercial services and retail uses to support the workers and businesses in the Plan Area.

2.2.1 Land Use Summary

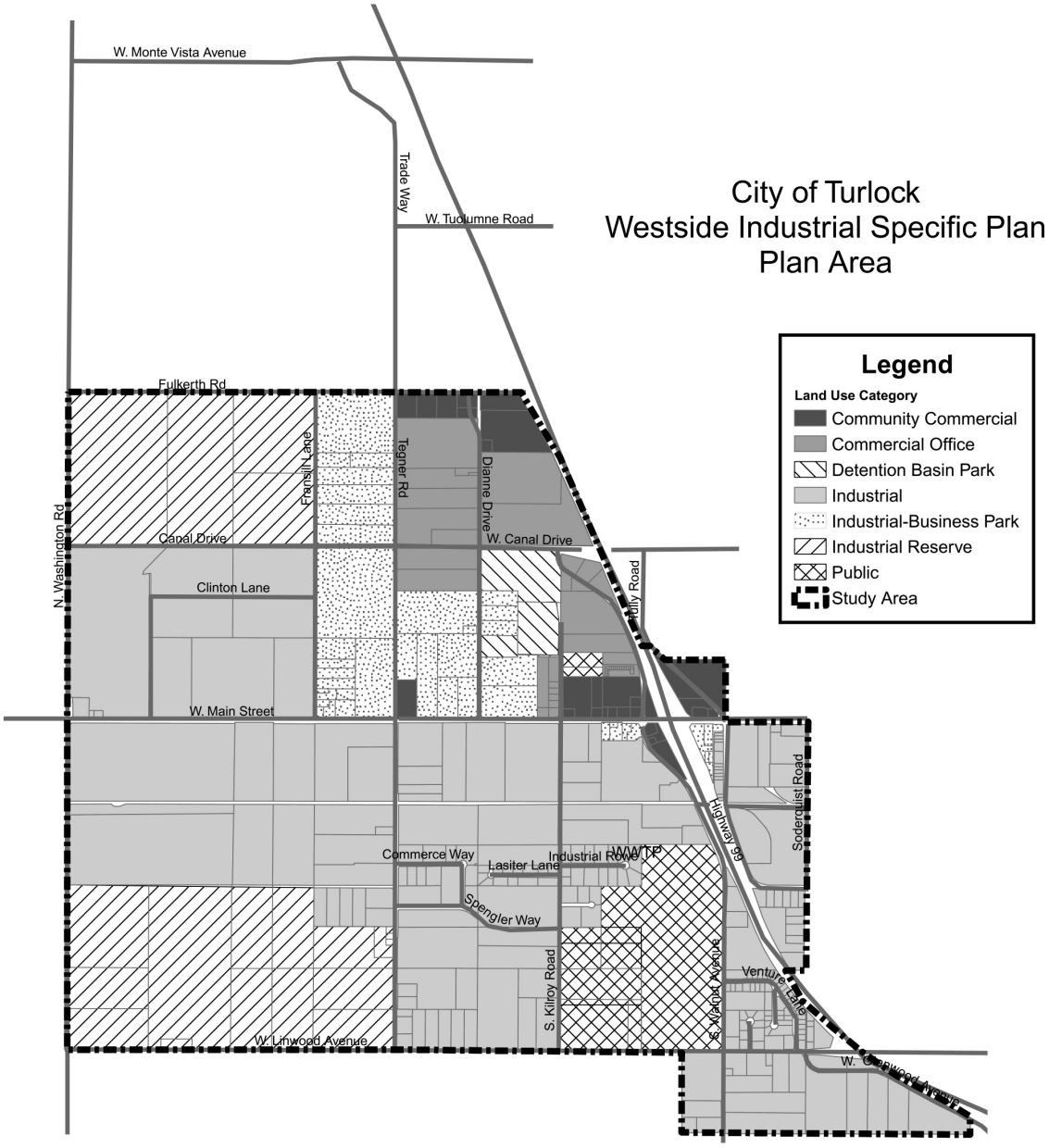
WISP encompasses a total of 2,632 acres. Table 2-1 summarizes the land use in the Study Area by the number of acres in each Zoning category.

Table 2-1

Land Use Category by Acres

Land Use	Acres
Commercial Office (CO)	174
Community Commercial (CC)	87
Industrial Business Professional (I-BP)	250
Industrial (I)	1,211
Public (PUB)	171
Detention Basin Park (I-BP)	39
Industrial Reserve (IR)	515
Roads	185
Total	2,632

Figure 2-3 Land Use Map



2.2.2 Project Objectives

The Westside Industrial Specific Plan objectives are:

Objective 1. Provide a new employment center for commerce and industrial uses compatible with the Plan Area.

Objective 2. Improve the jobs/housing balance in south Stanislaus County by providing local job opportunities in Turlock and, thereby, reducing the home-to-work commute by Turlock residents.

Objective 3. Establish high quality development that will provide landscaping and building design appropriate to the type of business activity present and a distinctive gateway to Turlock along SR 99.

Objective 4. Provide an attractive, pleasant work place, as reflected in the landscaping, quality buildings, access to parking, and employee oriented amenities, such as on-site recreation, outdoor and indoor lunch areas, and walking paths that connect to other businesses, restaurants, and services.

Objective 5. Provide development sites that are appropriate to the industrial and commercial user needs in terms of access, the size and configuration of available land parcels, availability of suitable buildings, and compatibility with surrounding land use.

Objective 6. Provide infrastructure and circulation improvements to support economic development.

Objective 7. Provide a good value for development of new facilities in terms of land costs, infrastructure and buildings.

Objective 8. Develop a comprehensive transportation system to provide convenient and quick access to the work place, which minimizes commute time and costs.

Objective 9. Provide convenient access to personal services and conveniences near the work place, such as day care, medical and dental care, banking, professional services, recreation, retail shops and restaurants.

Objective 10. Provide a location for start-up businesses near high support services and opportunities for business interaction.

Objective 11. Develop an industrial center that is noteworthy for technological innovation in communications and building design with regard to lighting, heating and cooling, materials re-use, water and energy conservation.

2.2.3 Development and Conservation Issues Addressed in the Plan

A number of factors including City policy influence the land use, urban design and circulation features of the WISP Project. The Specific Plan addresses the following characteristics, development and conservation issues that guide the development of the Plan Area.

- East-west circulation connections – The ability to connect across SR 99 to allow resident workers convenient access to the employment center is an essential design consideration.
- North-south circulation connections – The Plan Area will need to provide one or more major north-south connectors.
- Gateway Opportunities – The Plan Area provides opportunities to establish a high quality visual presence for the City along the SR 99 frontage.
- Proximity to the Wastewater Treatment Plant – The proximity to the plant can help reduce development costs for major new industrial users, and provides the potential for use of recycled wastewater.
- Proximity to the Turlock Irrigation District (TID) Energy Generation Plant – Industrial users with high energy demands will have the opportunity to locate near the new energy plant.
- On-going agricultural activity – Agriculture will continue in the Plan Area for many years.
- Incremental Growth – Development of the Plan Area is likely to extend over many years.
- Fiscal Stability and Capital Finance – The requirement for new infrastructure will need to be balanced with the ability to fund such improvements over a period of years.

2.2.4 Permits and Other Approvals Required to Implement WISP

The development of the Plan Area will occur over a period of years, perhaps decades. In that time frame it is possible that additional permits and approval processes may be implemented at the local, State or Federal level. Such new permits and approvals cannot be foreseen and are not addressed in this Environmental Impact Report. The permits and approvals required in order to implement the proposed Specific Plan include the following:

- Amendment to the City of Turlock Sphere of Influence
- Prezoning land in the unincorporated area
- Annexation to the City of Turlock and concurrent reorganization with the Turlock Rural Fire Protection District
- Amendment to the General Plan Map
- Amendment to the Zoning Map
- Tentative Parcel/Subdivision Maps
- Conditional Use Permits

- Minor Discretionary Permits and Minor Administrative Approvals

2.3 PROJECT ALTERNATIVES

CEQA Guidelines require EIRs to analyze alternatives to a proposed project (CEQA Guidelines Section 15126.6(f)). The range of alternatives is governed by a "rule of reason," requiring the EIR to evaluate only those alternatives necessary to permit a reasoned choice. Furthermore, the EIR need examine only those alternatives that the lead agency determines could feasibly attain most of the basic objectives of the project. Among the factors that may be taken into account when addressing the feasibility of alternatives are (CEQA Guidelines Section 15126.6(f)(1)):

- Site suitability
- Economic viability
- Availability of infrastructure
- General plan consistency
- Other plans or regulatory limitations
- Jurisdictional boundaries
- Whether the project proponent can reasonably acquire, control or otherwise have access to alternative site.

Defining a range of reasonable alternatives is guided by the "feasibility" of those alternatives. CEQA defines feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors." (CEQA Guidelines, Section 15364)

2.3.1 Alternatives Evaluated and Rejected from Further Consideration in the DEIR

Alternative Land Use Mix

The magnitude and special purpose of this proposed project severely limits the range of alternative projects that would implement the intent of the General Plan. Specifically, the Study Area is designated in the General Plan as the location for a major employment center, and furthermore, that the residential land uses in the City should be located east of SR 99. Therefore, alternatives that include a residential component, or that substantially reduce or alter the employment generating land uses would not be consistent with the General Plan.

The alternatives are significantly influenced by the economic viability and demand for certain industrial types that are suited to the Central Valley in general, and specifically to the south Stanislaus County area. The Specific Plan reflects existing development plans and studies prepared by the City and Stanislaus County. Most notably, these include the City of Turlock Economic Development Plan, and Stanislaus County Economic Development and Implementation Plan. A study of Industry Cluster Opportunities, prepared by ESI Corp Strategic Planning Team (December 2002) for the City and Stanislaus County identified the opportunities for creation of an "Agri-Sciences cluster" that encompasses biotech, life sciences and agri-business and is inter-related with agriculture and food technology, headquarters, growers, processors, suppliers and distributors.

The Agri-Sciences cluster is a dominant theme in the Specific Plan, although not to the exclusion of other industrial activity. The Specific Plan land use is a mix of industrial, business-industrial, commercial and other supporting uses intended to serve two purposes. First, the mix of uses would allow a variety of employment opportunities to develop. Within each land use category is a fairly broad range of permitted uses. Thus, the area could develop in different combinations of warehouse, office, industrial, and commercial uses. Second, the land uses are distributed in a manner that should allow opportunities for economic growth at any time. Land use is coordinated with the phases of development determined by the availability of sewer, water, drainage and road improvements.

An alternative that would emphasize industrial, or office, or commercial use to the exclusion of some other use is not included in this alternatives analysis because the land use mix and distribution is designed to accommodate a wide range of alternative development scenarios.

Alternative Location

The alternative location scenario would consider the location of a comparable sized employment development center elsewhere in or adjacent to the city, or a combination of smaller employment centers distributed around the city that would accommodate similar levels of employment development.

This alternative is not consistent with the General Plan that specifically directs employment development to the west side of SR 99 in this area. A review of the General Plan land use map and the vacant land in and around the city indicate that there is not a feasible alternative location or combination of locations that would achieve the objectives of the Specific Plan due to the following considerations:

- The existing industrial core provides a nucleus of industrial activity that would attract similar, compatible uses. Location of additional industrial uses in or around the existing city would cause compatibility conflicts with other land uses.

- The existing rail spur service exists only in the Study Area and cannot be easily replicated elsewhere in the city. Therefore, rail dependent industrial and warehouse uses would be precluded in other locations.

- The proximity of the Turlock Water Quality Facility to the industrial uses makes the Study Area uniquely appropriate for industrial uses that generate high volumes of waste water. Alternative locations for such uses would require expensive wastewater transmission facilities that would be likely to have additional significant environmental impacts related to construction.

- The visibility along SR 99 is an important asset to marketing the planned uses, notably the office and business-industrial park uses that benefit from freeway exposure. Other highly visible locations are located along SR 99 in the vicinity of the city, but none have

the other attributes of access, size and existing industrial core that are provided in the Study Area.

- Access to SR 99 and the connection to I-5 near Patterson on Route J17 (W. Main Street) provide major traffic circulation on the west side of the city that is not available at other locations.

Dispersed Mix of Comparable Uses

A mix of supporting and inter-related land uses, such as office, service commercial, industrial and warehouses, is required to achieve the Specific Plan objectives of diverse employment opportunities. Distribution of these uses in smaller, dispersed locations in and around the city could provide the same total acres of development, but such a pattern of development would diminish the beneficial synergistic effects of different businesses and services interacting with one another in convenient proximity.

Therefore, the dispersion of the proposed land uses to several, smaller alternative locations was not considered.

2.3.2 Alternatives Evaluated in the DEIR

The alternatives to the WISP project include:

No Project Alternative: No Development

Under this scenario, no further development would occur. The City would not develop beyond the existing structures and uses within the Study Area. The No Project Alternative is a standard alternative common to all environmental analyses. It serves to provide a baseline for comparison of the other alternatives, including the proposed project.

Reduced Scale Project

The mix of land uses proposed in the Specific Plan is intended to provide a location for the long term employment development of the city. Thus, the proposed Specific Plan includes adequate land area to accommodate substantial employment development growth. This long-term approach enables the city to master plan for major infrastructure improvements, such as sewer, water, drainage, and roads. This is necessary to ensure cost effective and logical public improvements. In addition, the area included in the Specific Plan provides larger parcels that are suitable for master planned industrial and business-professional parks.

The reduced scale project eliminates the Industrial Reserve land use, reduces the Industrial (I) land use by 50% and the Industrial-Business Professional (I-BP) land use by 50% compared to the increase in land use provided in the Specific Plan. The increase in Community Commercial (CC) land use and Commercial Office (CO) would remain the same in the reduced scale project.

The reduced scale alternative would allow development of the mixed use concept envisioned in the Specific Plan, and would allow for employment development in the type of industries identified in the studies cited above in this section. The reduced area allocated to industrial and industrial-business professional uses would constrain potential opportunities for development of master planned industrial parks.

3. AESTHETICS AND VISUAL RESOURCES

The evaluation of aesthetics and visual resources primarily addresses the conversion of agricultural land to industrial and commercial uses, and the visual character of the streetscape, and the buildings and grounds in the developed areas.

3.1 EXISTING CONDITIONS

3.1.1 Visual Setting

The nearly level terrain in the Central Valley allows for distant views of the Sierra Nevada Mountains to the east and the Mt. Diablo Range to the west and southwest.

Views from highway overpasses provide brief panoramic views, but much of Study Area and surrounding area are viewed from the ground level perspective. The near view includes commercial and industrial uses clustered along the freeway. The distant view is primarily one of open agricultural fields and orchards, with a few interspersed livestock pastures.

View to West at Canal Drive Overcrossing

View of Industrial/ Retail Uses Along SR 99

3.1.2 WISP Study Area

Industrial and Commercial Uses

The Westside Industrial Specific Plan (WISP) Area is partially developed with a mix of industrial uses, notably south of West Main Street. The existing industrial uses include large industrial plants supported by rail, and smaller light industrial facilities. Several of the existing industrial uses occupy large sites that include plant facilities, storage and transportation.

Typical Light Industrial Use in the Study Area

Generally, buildings are utilitarian in character and design. The typical materials are light framed stucco, metal, or concrete block.

Commercial uses located along West Main Street from SR 99 to Dianne Drive are standard building designs that apply the signature styles of fast food restaurants, casual restaurants, and recreation commercial uses. Contemporary

developments, most notably the commercial uses on Fulkerth Avenue and West Main Street provide conventional commercial street front and parking area landscaping. The auto mall on the north side of Fulkerth Road provides an attractive landscaped frontage and median.

Agricultural Uses

A substantial portion of the Study Area remains in active agricultural production, including row crops and orchards. Active agricultural uses are found predominantly in the northern and western portions of the Study Area, but are also interspersed among Study Area industrial and commercial uses near State Route 99 (SR 99). Agriculture will continue to be a part of the Study Area for many years.

Commercial Center on West Main

Typical Orchard in the Study Area

3.2 REGULATORY SETTING

3.2.1 City of Turlock

General Plan

The City Design Element (Section 7) of the 1992 General Plan states,

> "While a City can establish specific building standards to enhance its attractiveness, the 'visual quality' and the physical well-being of a community are made up of much more than the specific design of individual buildings. It requires the City to examine it geographical setting, recognizing those things that contribute to its visual interest, and develop strategies to encourage their preservation and enhancement." (Page 7-1)

With the stated intent to help preserve and enhance the visual quality of the City, the City Design Element includes the following Policy:

Guiding Policy 7.1c: Maintain a compact growth pattern to avoid sprawl and preserve agricultural land and open space.

Beautification Master Plan

The City adopted a Beautification Master Plan in 2003 that establishes design themes for the entire city, but specifically for the SR 99 frontage and major gateways. These design themes apply to several conditions and locations in the Study Area.

3.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, the proposed project would have a significant adverse impact on the environment if the project would:

1. have a substantial adverse effect on a scenic vista;

2. substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;

3. substantially degrade the existing visual character or quality of the site and its surroundings;

4. create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT AV-1: **The proposed development will have a substantial adverse effect on a scenic vista.**

Level of Significance: **Less Than Significant**

The distant view to the Coast range and the Sierra Nevada are the primary scenic vistas within and around the Plan Area. These views will be blocked by new buildings developed in the Plan Area, in some limited locations, but will be visible from many other locations throughout the area. Therefore, the potential impact is less than significant.

POTENTIAL IMPACT AV-2: **The existing visual character or quality of the area will be degraded as a result of the proposed Westside Industrial Specific Plan (WISP) development.**

Level of Significance: **Less Than Significant**

A substantial portion of the Study Area remains in active agricultural production, including row crops and orchards. Active agricultural uses are found predominantly in the northern and western portions of the Study Area, but are also interspersed among Study Area industrial and commercial uses near State Route 99 (SR 99).

Although agriculture will continue to be a part of the Study Area for many years, these agricultural fields and orchards will be developed at full buildout of the WISP project. The existing visual character of agricultural fields and orchards will be replaced with urban development, including business, industrial and commercial uses that will be different in character from the current agricultural uses. However, the Specific Plan includes substantial and detailed design standards for visually important areas, including streets and the SR 99 frontage within the Study Area. The Specific Plan also requires landscaping and architectural standards for many uses in the commercial and industrial use areas. The standards will result in attractively landscaped streets, building sites and buildings. In some instances these standards may help to improve the existing development areas. In such cases the Specific Plan will have a beneficial effect on the existing visual character of the area.

Design standards for streetscape, landscaping, lighting, signage, and building design established in the Specific Plan are found in Section 4, Urban Design.

POTENTIAL IMPACT AV-3: **There will be an increased impact of light or glare from buildout of the proposed WISP project.**

Proposed development in the current agricultural open space areas will constitute new sources of light and glare. Impacts associated with nighttime light and glare are directly related to the level of development.

Level of Significance: **Potentially Significant**

Mitigation Measures:

The impact of light and glare can be minimized by incorporating design features and operating requirements into new development that limit light and glare on-site.

AV-2.1: All lighting fixtures must be shielded to confine light spread within the site boundaries. (Westside Industrial Specific Plan Urban Design Standards DS 129, DS 202)

AV-2.2: Building illumination and architectural lighting shall be indirect. Floodlights are prohibited. (Westside Industrial Specific Plan Urban Design Standard DS 206)

AV 2.3: Light standards for parking areas shall no exceed thirty feet (30') in height. (Westside Industrial Specific Plan Urban Design Standard DS 204)

AV-2.4: Security lighting fixtures shall not project above the fascia or roofline of the building and are to be shielded. The shields shall be painted to match the surface to which they are attached. (Westside Industrial Specific Plan Urban Design Standard DS 209)

AV-2.5: Provide minimal street lighting to meet safety standards and provide direction.

AV-2.6: Lights shall be placed to direct and control glare. Obtrusive light, light trespass, and poorly directed uplighting shall not be permitted.

AV-2.7: Lighting sources shall be thoughtfully located and shall have cut-off lenses to avoid light spillage and glare on adjacent properties..

AV-2.8: Provide directional shielding for street and parking lot lighting.

AV-2.9: Provide automatic shutoff or motion sensors for lighting features in newly developed areas.

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented. Given that the areas proposed for new development are contiguous with existing development, some nighttime light and glare already exist in the area.

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4. AGRICULTURAL RESOURCES

The City of Turlock and the Westside Industrial Specific Plan (WISP) Study Area are located in an area of rich agricultural resources. These resources include orchards, dairies, vineyards, row crops, and pasture land. Agriculture has been an integral part of the Turlock region's economic and social life since the mid-1800's.

4.1 EXISTING CONDITIONS

4.1.1 Soils Suitable for Agriculture

Land Capability Classification System

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) is a primary source of information concerning the suitability of soils for agricultural use. The NRCS Land Capability Classification System organizes soils into eight categories designated by Roman numerals (Class I-VIII). Generally, soils receiving a Class I or II rating are designated Prime Farmland. The eight categories are defined as:

Class I — Soils have few limitations that restrict their use.

Class II — Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III — Soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV — Soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V — Soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI — Soils have severe limitations that make them generally unsuitable for cultivation.

Class VII — Soils have very severe limitations that make them unsuitable for cultivation.

The Land Capability Classifications for the twelve (12) soils found within the WISP Study Area are provided in the Soil Survey for Eastern Stanislaus Area, California, USDA Soil Conservation Service (now Natural Resources Conservation Service).**(1)(2)** Table 4-1 shows these classifications.

Table 4-1
Study Area Soils

Soil (Map Series* and Symbol)	Soil Characteristics	Prime Farmland	Land Capability Classification	Expansive (Shrink-Swell Potential)	Subsidence Characteristics
Dehli (DeA)	loamy sand, somewhat excessively drained, high wind erosion hazard.	no	III	low	no
Dinuba (DmA)	fine sandy loam, Imperfect drainage, slight erosion hazard.	yes	II	low	no
Dinuba (DrA)	sandy loam, Imperfect drainage, slight erosion hazard.	yes	II	low	no
Dinuba (DtA)	sandy loam, deep, Imperfect drainage, slight erosion hazard.	yes	II	low	no
Dinuba (DwA)	sandy loam, slightly saline-alkali, Imperfect drainage, slight erosion hazard	yes	II	low	no
Greenfield (GsA)	sandy loam, good drainage, slight erosion hazard.	yes	I	low	no
Hanford (HdA)	sandy loam, good drainage, slight erosion hazard.	yes	I	low	no
Hanford (HdC)	sandy loam, good drainage, moderate erosion hazard.	no	IV	low	no
Hilmar (HfA)	loamy sand, Imperfect drainage, moderate wind erosion hazard.	no	III	low	no
Hilmar (HmA)	sand, imperfect drainage, high wind erosion hazard	no	III	low	no
Madera (MdA)	sandy loam, good drainage, slight erosion hazard	no	IV	high	no
Tujunga (TuA)	loamy sand, somewhat excessively drained, slight erosion hazard.	no	III	low	no

** A soil series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the underlying material can differ within a series.*

Source: Soil Survey for Eastern Stanislaus Area, California. 1964. U.S. Department of Agriculture, Soil Conservation Service; Telephone Conversation with Michael McElhiney, Stanislaus County NRCS, March 2004.

Two (2) Study Area soils, the Greenfield (GsA) series and the Hanford (HdA) series, are Class I soils (few limitations), and are considered prime farmland where irrigated. Four of the Study Area Soil Series are Class II soils (moderate limitations), and are considered prime farmland where irrigated; four are Class III soils (severe limitations); and two are Class IV soils (very severe limitations). Class III and Class IV soils are not considered prime farmland.

Important Farmland Inventory

The NRCS also implements another soils classification system: the "Important Farmland Inventory" (IFI). The program provides a source of information for state and local agencies concerned with agricultural land conversion. The IFI identifies four farmland categories: Prime Land, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

Farmland Mapping and Monitoring Program

The California Department of Conservation, Office of Land Conservation, utilizing NRCS data discussed above, has developed a Farmland Mapping and Monitoring Program (FMMP). The FMMP maps agricultural products, as well as acreage statistics from the Farmland Conversion Report. These maps are used for many projects associated with assessment of agricultural land resources. Prime Farmland qualifications include a requirement that the area must have been in production of irrigated crops at some time during the four years prior to the Important Farmland Map date. In addition, the soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the NRCS. As discussed above, the NRCS compiles lists of which soils in each survey area meet the quality criteria.

Table 4-2 defines the farmland categories applied in the Farmland Mapping and Monitoring Program. **(3)**

Table 4-2

Important Farmland Inventory Definitions

Category	Definition
Prime Farmland (P)	Farmland with the best combination of physical and chemical features able to sustain long term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.
Farmland of Statewide Importance (S)	Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date.
Unique Farmland (U)	Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
Farmland of Local Importance (L)	Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
Grazing Land (G)	Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
Urban and Built-up Land (D)	Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
Other Land (X)	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; vacant and nonagricultural land surrounded on all sides by urban development; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres.
Water (W)	Perennial water bodies with an extent of at least 40 acres.

Source: California Department of Conservation, Office of Land Conservation. Farmland Mapping and Monitoring Program. www.conservation.ca.gov. April 2003.

Table 4-3 summarizes the important farmlands in the WISP Study Area, and Figure 4-1 maps the distribution of these farmland categories.

Table 4-3

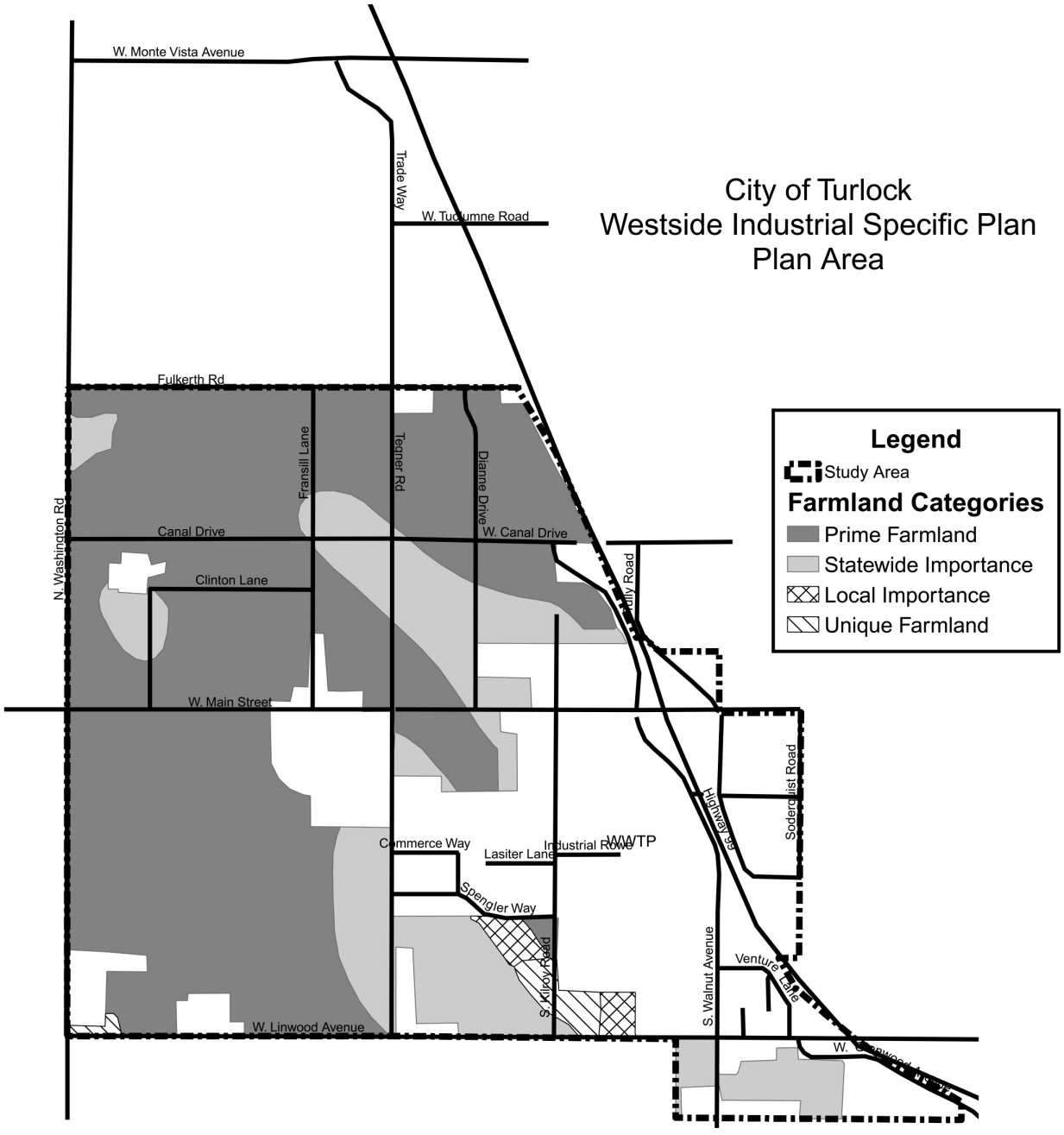
Summary of Important Farmland in the WISP Study Area

Land Use Category	WISP Study Area *(Acres)*	Percent of Study Area
L Farmland of Local Importance	22.4	0.9%
P Prime Farmland	1,246.2	47.3%
S Farmland of Statewide Importance	385.5	14.6%
U Unique Farmland	24.9	0.9%
D Developed Land	850.4	32.3%
X Other Land	102.9	3.9%
Total	2,632.0	100.0%

(Numbers are rounded to nearest decimal point)

Source: California Department of Conservation, Office of Land Conservation. Farmland Mapping and Monitoring Program. www.conservation.ca.gov. April 2004.

Figure 4-1 Important Farmland in the WISP Study Area



Source: California Department of Conservation, Office of Land Conservation. Farmland Mapping and Monitoring Program. www.conservation.ca.gov. April 2004.

4.1.2 Land Conservation Act (Williamson Act)

More than 16 million of the State's 30 million acres of farm and ranch land are currently protected under the Williamson Act.

The vehicle for Williamson Act agreements is a rolling term ten-year contract (i.e., unless either party files a "notice of non-renewal," 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 then their potential market value. An agricultural preserve, consisting of no less than 100 acres, defines the boundary of an area within which a city or county will enter into contracts with landowners. Only land located within an agricultural preserve is eligible for a Williamson Act contract. Preserves are regulated by rules and restrictions designated in the resolution to ensure that the land within the preserve is maintained for agricultural or open space use.

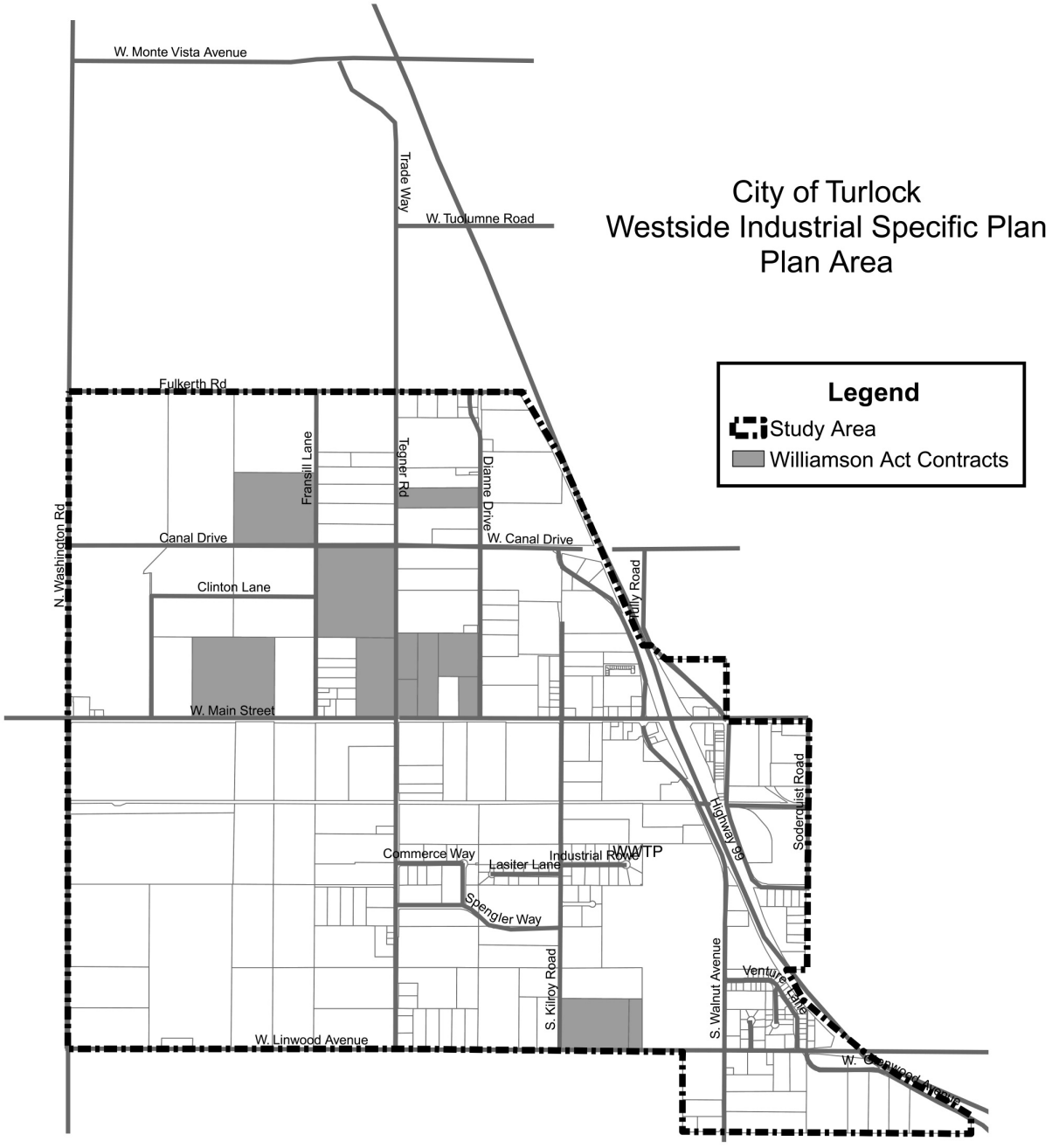
Although the State Department of Conservation coordinates and monitors implementation of the Williamson Act, each county regulates the criteria for participation and administers the program.

Under a Williamson Act contract, the property owner is guaranteed that the property will be taxed according to its potential agricultural income, as opposed to the maximum valued use of the property. Contracts have a 10-year term that is renewed annually. Contracts can be terminated by cancellation or nonrenewal.

A local government, or landowner, can initiate the non-renewal process to terminate the Williamson Act contract. A "notice of non-renewal" starts the nine-year non-renewal period. During the non-renewal process, the annual tax assessment gradually increases and the property continues to be limited to Williamson Act allowed uses. At the end of the nine-year non-renewal period, the contract is terminated.

The precise number of acres subject to a Williamson Act varies from year-to-year as individual contracts are added or removed through the non-renewal process. As of the end of 2003, there were approximately 205.87 acres subject to Williamson Act contracts within the Study Area. None of the contracts had filed a notice of non-renewal. Figure 4-2 illustrates the location of the lands under contract in 2003. **(4)**

Figure 4-2 Lands Under Williamson Act Contracts Within the Study Area



Source: California Department of Conservation, Office of Land Conservation. Williamson Act Program. www.conservation.ca.gov. April 2004.

4.2 REGULATORY SETTING

4.2.1 Federal Regulation

U.S. Land Evaluation and Site Assessment (LESA) System

The Land Evaluation and Site Assessment (LESA) system ranks lands for suitability and inclusion in the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) Farmland Protection Program (FPP). The FPP is a voluntary program aimed at keeping productive farmland in agricultural uses. LESA evaluates several factors that are used to numerically rank the suitability of parcels based on local resource evaluation and site considerations. These factors include soils potential for agricultural use, location, market access, and adjacent land use.

4.2.2 State Regulation

California Land Evaluation and Site Assessment (LESA)

The California Land Evaluation and Site Assessment (LESA) model was based on the U.S. LESA system, and can be used to rank the relative importance of farmland, including the potential significance of its conversion on a site-by-site basis. The evaluation factors are discussed above in Section 4.1

Farmland Mapping and Monitoring Program (FMMP)

The California Department of Conservation began the Farmland Mapping and Monitoring Program (FMMP) in 1980 to document how much agricultural land in the State was being converted to nonagricultural land or transferred into Williamson Act contracts. The requirements to be shown on the FMMP Important Farmland Maps as Prime Farmland or Farmland of Statewide Importance are discussed above in Section 4.1.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act (Williamson Act), California Government Code Sections 51290 et seq., encourages the conservation of agricultural lands by providing tax incentives to land owners who contract with the County to restrict land uses to agriculture and compatible uses. Although most Williamson Act contracts protect land in agricultural production, the Act also provides for contracts to preserve open space areas (recreational, scenic, and natural resources).

4.2.3 Stanislaus County General Plan

Approximately 58 percent of the Study Area is within the incorporated boundary of the City of Turlock. Therefore, approximately 42 percent of the Study Area remains under the jurisdiction of Stanislaus County. The City will annex the adjacent Stanislaus County unincorporated area as the Plan Area develops.

The Land Use Element (Chapter One) of the October 1994 Stanislaus County General Plan includes the following applicable Policy:

Policy Fourteen: Uses shall not be permitted to intrude into or be located adjacent to an agricultural area if they are detrimental to continued agricultural usage of the surrounding area.

4.2.4 City of Turlock General Plan

The Open Space and Conservation Element (Section 6) of the existing 1992 General Plan includes the following Policies intended to protect agriculture:

Guiding Policy 6.1-a: Retain Turlock's agricultural setting by limiting urban expansion to designated areas, providing additional industrial land suitable for agricultural industry, and minimizing conflict between agriculture and urban activities.

Guiding Policy 6.1-b: Require development at densities higher than typical in recent years in order to limit the amount of land needed for expansion while accommodating urban growth.

Guiding Policy 6.1-c: Maintain a compact urban form to minimize the urban/agricultural interface; manage the interface by requiring buffers to reduce conflicts between uses.

Guiding Policy 6.1-e: Support the implementation of Stanislaus County's Agricultural Element and Right-to-Farm Ordinance.

Implementing Policy 6.1-j: Support agricultural industry within the City but not in the unincorporated portions of the Planning Area.

Implementing Policy 6.1-m: Do not annex agricultural land unless urban development consistent with the General Plan has been approved, except when prezoning for industrial use, or when retention as agricultural land is desired to create a separation between communities consistent with the General Plan Diagram.

Implementing Policy 6.1-n: Support participation in the Williamson Act program; by Planning Area landowners.

4.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact on the environment if the project would:

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.

3. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

4.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT AG-1: **Implementation of the proposed Westside Industrial Specific Plan (WISP) project will result in conversion of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to non-agricultural use.**

Level of Significance: **Significant and Unavoidable**

The WISP Study Area is designated for urban development and conversion of agricultural land in both the City of Turlock General Plan and the Stanislaus County General Plan.

At full build-out of the proposed WISP project, all existing farmland would be converted to non-agricultural uses. The Study Area contains Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as shown above in Figure 4-1 and Table 4-3. There are no mitigation measures which will reduce the conversion of all farmland within the WISP Study Area to a less-than-significant level; however, the following mitigation measures are included to allow for the gradual phasing out of agricultural production over time and to prevent the premature conversion of agricultural land to urban uses.

Mitigation Measures:

AG-1.1: Agricultural activity will be allowed to continue on lands designated for urban use, until urban development is imminent. (Westside Industrial Specific Plan Land Use Policy LU-P-9)

AG-1.2: An orderly and phased development pattern shall be provided so that farmland is not subjected to premature development pressure.

POTENTIAL IMPACT AG-2: Implementation of the proposed WISP project may cause a conflict with existing Williamson Act contracts.

The precise number of acres subject to a Williamson Act varies from year-to-year as individual contracts are added or removed through the non-renewal process.

All Williamson Act lands must remain as agricultural lands through the ten-year contract. The contract is automatically renewed for an additional year, unless either party files a "notice of non-renewal." Under this exception, the contract would remain in effect through the existing ten-year commitment.

However, the proposed urban development may conflict with the adjacent agricultural lands under William Act contract.

Level of Significance: Potentially Significant

Mitigation Measures:

AG-2.1: In approving urban development near existing agricultural lands, the City shall ensure that such development will not unnecessarily constrain agricultural practices or adversely affect the viability of nearby agricultural operations through the adoption of appropriate project-specific mitigation measures.

Residual Level of Significance: Significant and Unavoidable

Given that the WISP project proposes that all existing farmland be converted to urban uses at full build-out, the landowners of existing Williamson Act lands may file for non-renewal rather than allowing the automatic renewal of their contracts.

POTENTIAL IMPACT AG-3: Due to its location or nature, the proposed WISP project may result in conversion of adjacent farmland to non-agricultural uses.

A substantial portion of the Study Area remains in active agricultural production. These agricultural lands are found predominantly in the northern and western portions of the Study Area, but are also interspersed among industrial and commercial uses near SR 99.

Level of Significance: Potentially Significant

Mitigation Measures:

AG-3.1: The City shall not extend water and sewer lines prematurely to allow urban development that would adversely affect agricultural operations.

AG 3.2: Provide buffers at the interface of urban development and farmland in order to minimize conflicts between these uses.

AG-3.3: Right-to-farm disclosure notices shall be recorded on the title of all new development in the Study Area.

AG 3.4: Developed property adjoining irrigated ground must be graded so that finished grading elevations are at least six (6) inches higher than irrigated ground. A protective berm must be installed to prevent irrigation water from reaching non-irrigated properties. Stub-end streets adjoining irrigated ground must have a berm installed at least 12 inches above the finished grade of the irrigated parcel(s).

Residual Level of Significance: **Significant and Unavoidable**

The above mitigation measures will help to protect existing agricultural lands from the proposed urban development. However, given that the WISP project proposes that all existing farmland be converted to urban uses at full build-out, the landowners of adjacent agricultural lands may convert to non-agricultural uses.

References:

(1) U.S. Department of Agriculture, Soil Conservation Service. Soil Survey for Eastern Stanislaus Area, California, 1964. (An update is not available at this time.)

(2) Telephone Conversation with Michael McElhiney, Stanislaus County NRCS, March 2004.

(3) (California Department of Conservation, Office of Land Conservation. Farmland Mapping and Monitoring Program. www.conservation.ca.gov.

(4) California Department of Conservation, Office of Land Conservation. Williamson Act Program. www.conservation.ca.gov.

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5. AIR QUALITY

The Air Quality Section of this EIR evaluates potential impacts on air quality resulting from the implementation of the proposed Westside Industrial Specific Plan. This Section incorporates guidance and air quality data from the San Joaquin Valley Air Pollution Control District (SJVAPCD). **(1)**

5.1 EXISTING CONDITIONS

5.1.1 San Joaquin Valley Air Quality Designation

The Westside Industrial Specific Plan is located in the northern San Joaquin Valley. The San Joaquin Valley is currently designated as "severe nonattainment" for the state ozone 1-hour standard, and "extreme nonattainment" for the 1-hour, "serious nonattainment" for the 8-hour ozone, and 24-hour fine particulate matter (PM10) federal standards, as shown in Table 5-1 below. **(1)(2)(3)**

5.1.2 Setting

Ironically, the long, warm summers that make the area especially suited for agriculture are the same conditions that contribute to the Valley's air quality problems. Heat and sunlight transform volatile organic compounds and nitrogen oxides from vehicle exhaust, industrial processes, and other operations into ground-level ozone, also known as smog. The surrounding mountain ranges pose an additional challenge, as they trap smog in the Valley, not allowing it to dissipate.

In addition to smog, dry weather conditions and topography allow small particles of man-made compounds, as well as soot, ash and dust to become suspended in the air, creating another harmful pollutant -- particulate matter.

The Valley does not currently meet health-based standards set by the United States Environmental Protection Agency (EPA) for ozone and particulate matter, nor the state standards for ozone. These health standards have been established to protect public health, as both smog and particulate matter can cause or aggravate respiratory and cardiac conditions. Research indicates that long-term exposure to either pollutant can contribute to the premature death of people and animals.

In addition to grave health concerns, these pollutants also have a significant impact on other quality of life issues. Ozone damages crops, ornamental vegetation, and man-made materials, affecting the Valley's economy. Particulates obscure visibility, notably distant views, and diminish the natural beauty of the area.

Table 5-1
Attainment Status for San Joaquin Valley

	Designation	
Pollutant	***National Standards***	***State Standards***
Ozone- One hour	Nonattainment/Extreme	Nonattainment/Severe
Ozone- Eight hour	Nonattainment/Serious	No State Standard
PM10	Nonattainment/Serious	Nonattainment
PM2.5	Designation to be Determined	No State Standard
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead (Particulate)	No designation	Attainment

Source: San Joaquin Valley Air Pollution Control District (SJVAPCD; California Air Resources Board (CARB); U.S. Environmental Protection Agency; May 2004 and June 2004

Topography

Air quality in the northern San Joaquin Valley is significantly influenced by topography. The City of Turlock lies within the northern portion of the San Joaquin Valley Air Basin, which in turn occupies the southern half of the Great Central Valley of California. The San Joaquin Valley is bounded by the coastal mountain ranges on the west, rising to an average elevation of 3,000 feet, and the Sierra Nevada mountain range on the east. The Carquinez Strait lies northwest of the Study Area and the intervening terrain is flat. The Strait is a sea level gap in the coastal range where the San Joaquin-Sacramento Delta empties into San Francisco Bay. Prevailing winds from the ocean blow through the Carquinez Strait, carrying pollutants from the more populous Bay Area.

The bowl-like formation of the Valley prevents through-passage while the high barometric pressure often blocks the vertical flow. In winter, low wind speeds combined with low inversion layers create a climate conducive to high carbon monoxide concentrations, while the high summer temperatures aid formation of ozone.

Climate

The winters in the San Joaquin Valley are usually mild and fairly humid, and the summers are hot, dry, and nearly cloudless. This climate is the result of both the topography and the mean position of the seasonal mid-latitude storm track.

Temperature

In winter, the storm systems moving in from the Pacific Ocean bring a decidedly maritime influence to the San Joaquin Valley. The Sierra Nevada mountain range on the east prevents the cold, continental air masses from influencing the Valley. Temperatures below freezing are unusual. Average high temperatures in the winter are in the 50's (F), but highs in the 30's and 40's can occur with persistent fog and low cloudiness.

In summer, high temperatures often exceed 100 degrees, with averages in the low 90's in the northern valley and the high 90's in the southern valley. Summer low temperatures average in the high 50's in the northern valley and the upper 60's in the southern valley.

Precipitation

Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high pressure belt located off the Pacific coast (referred to as the Pacific High). In the winter, this high pressure system moves southward, allowing Pacific storms to move through the Valley. The majority of the precipitation in the Valley is winter rain produced by these storms. Snowstorms, hailstorms, and icestorms occur infrequently in the Valley, and severe occurrences are very rare. Precipitation during the summer is in the form of convective rain showers, and is rare.

Precipitation on the Valley floor and in the Sierra Nevada decreases from north-to-south. This is primarily because the Pacific storm track often passes through the northern part of the state, while the southern part of the state remains protected by the Pacific High.

The northern end of the Valley (Turlock and Stockton area) receives approximately 20 inches of rain per year. The central portion of the Valley (Fresno area) receives approximately 10 inches of rain per year. The southern end of the Valley (Bakersfield area) receives less than 6 inches of rain per year.

Wind Patterns

The topography of the San Joaquin Valley has a dominating effect on wind patterns. Winds tend to blow somewhat parallel to the Valley and mountain range orientation. In spring and early summer, thermal low-pressure systems develop over the interior basins east of the Sierra Nevada mountain range, and the Pacific High moves northward. These developments and the topography produce the high incidence of relatively strong northwesterly winds in the spring and early summer.

The San Joaquin Valley receives a combination of sea breeze-land breeze and mountain-valley regimes. The sea breeze-land breeze regime has a sea breeze flowing into the Valley from the north during the day, and a land breeze flowing out of the Valley at night.

The prevailing wind direction in the City of Turlock is from the northwest, resulting from marine breezes through the Carquinez Strait. During the winter, the sea breeze diminishes.

Tule Fog

Between winter storms, high pressure and light winds allow cold moist air to pool on the Valley floor. This creates strong low-level temperature inversions and very stable air conditions. The Valley's well-known Tule Fog is the result of these conditions.

5.1.3 Sensitive Receptors

Sensitive receptors located in or near the vicinity of known air emissions sources, including freeways and intersections, are of particular concern. Sensitive receptors typically include the following: residences, athletic facilities, schools, health care facilities, playgrounds, convalescent centers, child care centers, and rehabilitation centers.

Land use compatibility issues relative to siting of pollution-emitting sources or siting of sensitive receptors must also be considered. In the case of schools, state law requires that siting decisions consider potential for toxic or harmful air emissions in the surrounding area.

The WISP Study Area is located adjacent to State Route 99 (SR 99), and a number of arterial roadway intersections are found within and adjacent to the WISP boundaries. Sensitive receptors located within and immediately adjacent to the Study Area are residences. Single family homes are currently located in the southwest and central portion of the Study Area. These homes will remain for varying periods of time during the build-out of the proposed WISP project. The WSIP project does not include the development of additional sensitive receptor land uses, such as residences and schools.

5.2 REGULATORY SETTING AND STANDARDS

5.2.1 Federal Regulation

U. S. Environmental Protection Agency National Ambient Air Quality Standards

Pursuant to the Federal Clean Air Act of 1970 and subsequent amendments, the Environmental Protection Agency (EPA) has established ambient air pollutant concentration standards and maximum allowable emission rates (National Ambient Air Quality Standards (NAAQS)), for certain individual sources of air pollutants. Air quality is managed through the attainment and maintenance of these ambient standards and enforcement of the emission limits.

There are six Primary NAAQS "criteria" air pollutants (so called because they were established on the basis of health criteria):

- Ozone (O3)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO2)
- Sulfur Dioxide (SO2)
- Fine Particulate Matter (PM10)
- Lead (Pb)

The U.S. Environmental Protection Agency (EPA) also recently adopted standards for fine particulate matter (PM2.5).

These air pollutants are further discussed below in Section 5.2.3 below.

5.2.2 State Regulation

California Air Resources Board

The California Air Resources Board (CARB) coordinates and oversees the air pollution control activities performed in California by the local air districts. One of their tasks is to compile data from the numerous air quality monitoring stations throughout the state. Data collected at those stations are used to classify areas and air basins as attainment or nonattainment for each criteria air pollutant based on whether the federal ambient air quality standards have been achieved. CARB has established state ambient air quality standards, many of which are more stringent than the corresponding federal standard. State standards attempt to protect "sensitive" people. Children, the elderly, athletes, and people with existing respiratory ailments (e.g. asthma, emphysema), and heart disease are much more sensitive to air pollution than the average citizen.

Central California Air Quality Studies (CCAQS) (2)

CARB's Central California Air Quality Studies (CCAQS) comprise two (2) studies: the California Regional Particulate Air Quality Study (CRPAQS), and the Central California Ozone Study (CCOS).

The CCAQS is a multi-year effort of meteorological and PM10/PM2.5 air quality monitoring, emission inventory development, data analysis, and air quality simulation modeling. The objectives of the study are to: 1) provide an improved understanding of emissions, PM10 and PM2.5 composition, and dynamic atmospheric processes; 2) establish a strong scientific foundation for informed decisions making; and 3) develop methods to identify the most efficient and cost-effective emission control strategies to achieve the PM10 and PM2.5 standards in Central California. The concept for the plan was initiated in 1991 by the agricultural community when they approached the U.S. EPA for funding. Government entities and industries endorsed the study, and full-scale planning began in 1992. Large-scale field monitoring programs were begun in 1999.

The CCOS consists of a field program, data analysis, emission inventory development, and modeling. The field program of the CCOS was conducted during the summer of 2000. Emission inventory development, data analysis and modeling are on-going projects. The entire effort is expected to be completed by 2005. The CARD and Air Pollution Control Districts plan to use the results of the CCOS to prepare the demonstration of attainment for the ozone standard for non-attainment areas in central California.

5.2.3 Ambient Air Quality Standards

The federal (national) and California State ambient air quality standards are shown below in Table 5-2. **(2)(3)**

Ozone (O3)

As shown in Table 5-2, the one-hour California Ambient Air Quality Standard for ozone is 0.09 part per million (PPM), and is not to be exceeded. The one-hour National (Federal) Ambient Air Quality Standard for ozone is 0.12 ppm (an average of the highest hour during the day), and is not to be exceeded more than three (3) times in any three-year period. The new (as of April 15, 2004) 8-hour National Ambient Air Quality Standard for ozone is 0.08 ppm (averaged over 8 daytime hours), and is not to be exceeded more than three (3) times in any three-year period.

Table 5-2

Ambient Air Quality Standards

Pollutant	Averaging Time	Concentration	
		National Standards	California Standards
Ozone (O3)	8-hour 1-hour	0.08 ppm* 0.12 ppm	N/A 0.09 ppm
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm 35 ppm	9 ppm 20 ppm
Nitrogen Dioxide (NO2)	Annual: Arithmetic Mean 1-hour	0.053 ppm N/A	N/A 0.25 ppm
Sulfur Dioxide (SO2)	Annual: Arithmetic Mean 24-hour 1-hour	0.03 ppm 0.14 ppm N/A	N/A 0.04 ppm 0.25 ppm
Particulate Matter (PM10)	Annual: Arithmetic Mean 24-hour	50 micrograms/ cubic meter 150 micrograms/ cubic meter	50 micrograms/ cubic meter
Lead (Pb)	30-day average Quarterly Average	N/A 1.5 micrograms/ cubic meter	1.5 micrograms/ cubic meter N/A
Particulate Matter (PM2.5)	Annual: Arithmetic Mean 24-hour	15 micrograms/ cubic meter 65 micrograms/ cubic meter	 N/A

** ppm = parts-per-million by volume*

Source: San Joaquin Valley Air Pollution Control District (SJVAPCD); California Air Resources Board (CARB); U.S. Environmental Protection Agency; May2004 and June 2004

Ground-level ozone (the primary constituent of smog) is the most complex, difficult to control, and pervasive in the six principal pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is a “photochemical” pollutant, created by a complex series of chemical reactions between reactive organic gases (ROG), nitrogen oxides (NOx), and sunlight.

Scientific evidence indicates that ground-level ozone not only affects people with impaired respiratory systems (such as asthmatics), but healthy adults and children as well. Exposure to ozone for six to seven hours, even at relatively low concentrations, significantly reduces lung function and induces respiratory inflammation in normal, healthy people during periods of moderate exercise. It can be accompanied by symptoms such as chest pain, coughing, nausea, and pulmonary congestion. Recent studies provide evidence of an association between elevated ozone levels and increases in hospital admissions for respiratory problems in several U.S. cities. Ozone is also responsible for several billion dollars of agricultural crop yield loss in the U.S. each year. Ozone damages natural ecosystems such as forests and foothill communities, as well as some man-made materials such as rubber, paint, and plastics.

The Valley’s long, hot summers, stagnant weather conditions, frequent inversions, and bowl shape with surrounding mountain barriers, create the perfect conditions to form and trap ground-level ozone. A fast growing population driving approximately 90 million miles per day compounds the problem.

There are literally thousands of sources of the reactive organic gases (ROG) and nitrogen oxides (NOx) which react with sunlight to form ozone. ROG and NOx are emitted from fuel combustion, and agricultural and industrial processes. Some of the more common sources include gasoline vapors, chemical solvents, combustion products of various fuels, and consumer products. They can originate from large industrial facilities, gas stations, and small businesses such as bakeries and dry cleaners. Often these "precursor" gases are emitted in one area, but the actual chemical reactions, stimulated by sunlight and temperature, take place in another.

Combined emissions from motor vehicles and stationary sources can be transported and spread by wind hundreds of miles from their origins, forming high ozone concentrations over very large regions.

Approximately 60 percent of the Valley’s smog problems come from cars, diesel trucks and other internal combustion engines such as lawnmowers and boats. These are collectively called “mobile sources.” The other 40 percent comes from business and industrial sources.

Carbon Monoxide (CO)

State and federal CO standards have been set for both 1-hour and 8-hour averaging periods. The state 1-hour CO standard is 20 parts per million (ppm) by volume, while federal 1-hour standard

is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period. State CO standards are phrased as values not to be exceeded; federal CO standards are phrased as values not to be exceeded more than once per year.

Nitrogen Dioxide (NO2)

Nitrogen dioxide belongs to a family of highly reactive gases called nitrogen oxides (NOx). These gases form when fuel is burned at high temperatures, and come principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A suffocating, brownish gas, nitrogen dioxide is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates. It also plays a major role in the atmospheric reactions that produce ground-level ozone (or smog).

Nitrogen dioxide can irritate the lungs and lower resistance to respiratory infections such as influenza. The effects of short-term exposure are still unclear, but continued or frequent exposure to concentrations that are typically much higher than those normally found in the ambient air may cause increased incidence of acute respiratory illness in children. California State's 1-hour air quality standard for NO2 is 0.25 ppm. EPA's national air quality standard for NO2 is 0.053 ppm (measured as an annual arithmetic mean). Nitrogen oxides are important in forming ozone and may affect both terrestrial and aquatic ecosystems.

Sulfur Dioxide (SO2)

Sulfur dioxide belongs to the family of sulfur oxide gases (SOx). These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.

The major health concerns associated with exposure to high concentrations of SO2 include effects on breathing, respiratory illness, alterations in pulmonary defenses, and aggravation of existing cardiovascular disease. Major subgroups of the population that are most sensitive to SO2 include asthmatics and individuals with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) as well as children and the elderly. California State's 1-hour air quality standard for NO2 is 0.25 ppm, and 0.04 ppm averaged over 24 hours. EPA's national air quality standard for SO2 is 0.03 ppm (measured as an annual arithmetic mean) and 0.14 ppm averaged over 24 hours. Emissions of SO2 also can damage the foliage of trees and agricultural crops. Together, SO2 and NOX are the major precursors to acid rain, which is associated with the acidification of lakes and streams, accelerated corrosion of buildings and monuments, and reduced visibility.

Particulate Matter (PM10)

Particulate matter is the term for solid or liquid particles found in the air. Some particles are large or dark enough to be seen as soot or smoke. Others are so small they can be detected only

with an electron microscope. Because particles originate from a variety of mobile and stationary sources (diesel trucks, wood stoves, power plants, etc.), their chemical and physical compositions vary widely.

Also shown in Table 5-2, the 24-hour California Ambient Air Quality Standard for PM10 is 50 micrograms per cubic meter, and is not to be exceeded. The 24-hour National Ambient Air Quality Standard for PM10 is 150 micrograms per cubic meter, and is not to be exceeded more than once per year.

In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) air quality standard with a PM10 standard. The newer standard focuses on smaller particles that are likely to result in adverse health effects because of their ability to reach the lower regions of the respiratory tract. The PM10 standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair).

Major concerns for human health from exposure to PM10 are effects on breathing and respiratory systems, damage to lung tissue, cancer, and premature death. The elderly, children, and people with chronic lung disease, influenza, or asthma, tend to be especially sensitive to the effects of particulate matter. Acidic PM10 can also damage manmade materials and is a major cause of reduced visibility in many parts of the U.S.

Primary man-made sources of PM10 in the San Joaquin Valley are agricultural operations, agricultural burning, demolition and construction activities, entrainment of dust by motor vehicles on paved and unpaved roads, and residential wood burning. Wind erosion of agricultural land also represents a significant source of airborne dust in the Valley.

Approximately 58% of the Valley's PM10 pollution comes from man-made sources and activities. Approximately 38% comes from natural causes, and approximately 4% is attributable to unplanned fires.

Lead (Pb)

Smelters and battery plants are the major sources of the pollutant "lead" in the air. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions.

Exposure to lead mainly occurs through inhalation of air and ingestion of lead in food, paint, water, soil, or dust. Lead accumulates in the body in blood, bone, and soft tissue. Because it is not readily excreted, lead can also affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause anemia, kidney disease, reproductive disorders, and neurological impairments such as seizures, mental retardation, and/or behavioral disorders. Even at low doses, lead exposure is associated with changes in fundamental enzymatic, energy transfer, and other processes in the body. Fetuses and children are especially susceptible to low

doses of lead, often suffering central nervous system damage or slowed growth. Recent studies show that lead may be a factor in high blood pressure and subsequent heart disease in middle-aged white males. Lead may also contribute to osteoporosis in postmenopausal women. EPA's health-based national air quality standard for lead is 1.5 micrograms per cubic meter (measured as a quarterly average).

Particulate Matter (PM2.5)

The recently adopted 24-hour National Ambient Air Quality Standard for PM2.5 (particles 2.5 micrometers or less in size) is 65 micrograms per cubic meter within a 24-hour period. California has not yet set a standard for PM2.5. However, the California Air Resources Board (CARB) has developed a PM2.5 monitoring network to implement the national standard. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is participating in collection of the PM2.5 data as required by the EPA.

Toxic Air Pollutants

Toxic air pollutants, such as asbestos, can be emitted during demolition of buildings containing toxic contaminants, and during operation of industries that utilize toxic substances. The Federal and State governments have implemented a number of programs to control toxic air emissions.

The Federal Clean Air Act provides a program for the control of hazardous air pollutants. The California legislature has enacted programs including the Tanner Toxics Act (AB1807), the Air Toxics Hot Spot Assessment Program (AB2588), the Toxics Emissions Near Schools Program (AB3205), and the Disposal Site Air Monitoring Program (AB3374).

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has developed an Integrated Air Toxic Program. This program integrates both state and federal requirements and is aimed at protecting public health. The District is implementing rules to control emissions from specific sources of toxic air pollutants. As part of the District's Risk Management Policy, certain businesses are required to obtain a permit to emit toxic air pollutants.

In 1998, the California Air Resources Board (CARB), in conjunction with the California EPA, classified diesel particulate as a toxic air contaminant. Particulate matter and other gases, including nitrogen oxides (NOx) are air pollutants emitted by diesel engines. Heavy-duty trucks, buses, and heavy off-road engines are key sources of nitrogen oxides (NOx) emissions within the Valley. In addition to nitrogen oxides, particulate matter, and other gases from diesel exhaust contain potential cancer-causing substances such as arsenic, benzene, formaldehyde, nickel, and polycyclic aromatic hydrocarbons.

In order to reduce the particulate matter, nitrogen oxide (NOx), and sulfur oxide (SOx) emissions from diesel engines, the CARB has adopted many important regulations. These include:

- Low sulfur/low diesel fuel requirement that reduces particulate matter, NOx, and SOx emissions.

- Emission standards that restrict the amount of particulate matter emitted by new diesel trucks, buses, cars, and heavy-duty trucks.
- Emission standards for NOx emissions from diesel cars, trucks and buses.
- Roadside testing of heavy-duty on-road vehicles for excessive particulate emissions.
- Fleet inspection and maintenance of heavy-duty vehicles.
- Emission standards that restrict the amount of particulate matter and that can be emitted from many diesel utility engines built after 1995.
- Provision of funds for Carl Moyer Memorial Air Quality Standards Attainment Program, which provides grants for the incremental cost of lower-emission diesel engines for heavy-duty vehicles.

5.2.4 San Joaquin Valley Air Pollution Control District (SJVAPCD)

Turlock falls under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The District was formed in 1991, and maintains its headquarters in Fresno.

The SJVAPCD is responsible for regulating stationary, indirect, and area sources of air pollution in the Valley. The eight counties that comprise the District are divided into three regions. These include the Northern Region, (Merced, San Joaquin, and Stanislaus Counties), the Central Region (Madera, Fresno, and Kings Counties), and the Southern Region (Tulare County and the Valley portion of Kern County).

Air districts have the primary responsibility for control of air pollution from all sources other than emissions directly from motor vehicles, which are the responsibility of the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA). Air districts adopt and enforce rules and regulations to achieve state and federal ambient air quality standards, and enforce applicable state and federal law.

Air districts are charged with controlling stationary sources of pollution, including industrial processes and equipment. Air districts are also required to implement transportation control measures.

Nearly all pollution control programs developed to date have relied on development and application of cleaner technology and add-on emission control devices to clean up vehicular and industrial sources, such as catalytic converters for automobiles. Only recently have efforts been directed at better use of existing emission sources (e.g. through inspection and maintenance programs, heavy-duty engine emission reduction programs, High Occupancy Vehicle or HOV Lanes, and maintenance procedures on industrial sources).

The SJVAPCD has entered into a Memorandum of Understanding (MOU) with the transportation planning agencies of the eight counties in the San Joaquin Valley Air Basin. This

MOU will ensure a coordinated approach in the development and implementation of transportation plans throughout the Valley. This action will help the Regional Transportation Planning Agencies comply with pertinent provisions of the federal and State Clean Air Acts, as well as related transportation legislation.

The SJVAPCD has adopted two Attainment Plans in an attempt to achieve state and federal air quality standards:

1. 1991 California Clean Air Act Air Quality Attainment Plan (AQAP) for ozone and carbon monoxide.

2. 1991 and 1992 PM10 Nonattainment Area Plan

After the area was re-designated as "serious nonattainment" for PM10 by the EPA, the SJVAPCD submitted a Serious Area PM10 Nonattainment Plan in September 1994.

However, the SJVAPCD is considering voluntarily seeking the federal government's worst air quality designation for ground-level ozone. There has been a 45 percent reduction since 1980 in the number of days the Valley's air violates health-based levels for ground-level ozone. However, improvements have not come quickly enough to meet clean air deadlines, prompting the EPA's serious nonattainment designation. This means that the Valley must now meet the ozone standard by 2005 by reducing total emissions inventory by an additional 30- percent or 300 tons per day.

The SJVAPCD has not been able to submit an implementation plan demonstrating such drastic reductions. The District is exploring an option of requesting an "extreme" non-attainment designation. With this designation, the new attainment date for the Valley would be 2010, instead of 2005.

In 2003, the SJVAPCD implemented a woodburning restriction program during poorest air quality days. Public announcement of "no burn" days is made through newspapers, television, and radio sources.

The SJVAPCD's Agricultural Burn Program requires burn permits for open vegetative burning. This permitting system is based upon smoke management throughout the Valley. As of May 18, 2004, the permitting system became automated. **(4)**

5.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact on the environment if the project would:

1) conflict with or obstruct implementation of the applicable air quality plan;

2) violate any air quality standard or substantially contribute to an existing or projected air quality violation;

3) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

4) expose sensitive receptors to substantial pollutant concentrations; or

5) create objectionable odors affecting a substantial number of people.

URBEMIS Emissions Model

The California Air Resources Board (CARB) URBEMIS 2001 for Windows v. 6.2.2, Emissions Estimation for Land Use Development Project Modeling Program, was used to derive emissions from construction, area sources, and operational (vehicle) emissions. The estimate of air quality impact is based on the land use assumptions established in Section 2 and Section 11of this EIR, shown in Table 5-3 below.

The effects of development anticipated in the WISP project will occur incrementally over twenty years or more. Therefore, the methods of analysis typically applied to evaluate new development proposals provide only broad, generic indicators of future impacts. The cumulative effect of each increment of new development over a twenty year horizon creates significant impacts that can only be approximated. The actual combination of land uses that will occur over time are very difficult to predict. Commercial, business professional and industrial uses provide a broad range of development opportunities and characteristics.

Construction Emissions

Emissions caused during construction would be due to site preparation and construction of the proposed uses. During construction, emissions would be generated by tailpipe emissions of particulate, carbon monoxide and nitrous oxide from diesel-powered earth moving equipment, particulate emissions from vehicular traffic on unpaved roads, and particulates emissions from soil disturbance (actual amount depends on total acreage disturbed). These impacts will not be sustained over time, but rather will occur sporadically over a period of years as the project is developed. Grading and other earth disturbance will occur in discrete periods as new phases of the project are developed.

Table 5-3

Projected Land Use Mix at Full Development of the Westside Industrial Specific Plan

Land Use	Acres
Commercial Office (CO)	174
Community Commercial (CC)	87
Industrial Business Professional (I-BP)	250
Industrial (I)	1,211
Public (PUB)	171
Detention Basin Park (I-BP)	39
Industrial Reserve (IR)	515
Roads	185
Total	2,632

Source: DRAFT Westside Industrial Specific Plan, May 2004

Area Source Emissions

Area source emissions were estimated for landscaping and consumer products. Landscape maintenance includes emissions from fuel-powered maintenance equipment.

Vehicle Source Emissions

The precursor emissions for vehicle sources is evaluated by the URBEMIS 2001 program based on the target year, trip characteristics, temperature data, variable starts, vehicle fleet percentages, road dust, and pass-by trips. The URBEMIS 2001 default settings for vehicle mix, variable starts and other factors are used in the evaluation. Both summer and winter conditions were evaluated. Summer conditions create the worst case scenario for precursor emissions.

Table 5-4

Summary of Winter Emissions (Pounds/Day)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS(lbs/day,unmitigated)	7,115.10	321.46	34.52	229.03	30.28
TOTALS (lbs/day, mitigated)	7,113.46	306.31	34.52	86.75	28.76

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS(lbs/day,unmitigated)	1.62	22.30	8.92	0.04	0.00
TOTALS (lbs/day, mitigated)	1.35	20.58	7.30	0.03	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS (ppd, unmitigated)	1,638.13	1,931.01	16,644.57	142,028.22	8.86

Source: URBEMIS 2001 for Windowsv.6.2.2 (Detailed Report Included in DRAFT EIR FOR *WESTSIDE INDUSTRIAL SPECIFIC PLAN , Volume 2, Technical Appendix.)*

Table 5-5

Summary of Summer Emissions (Pounds/Day)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS(lbs/day,unmitigated)	7,115.10	321.46	34.52	229.03	30.28
TOTALS (lbs/day, mitigated)	7,113.46	306.31	34.52	86.75	28.76

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS(lbs/day,unmitigated)	2.72	22.38	16.91	0.06	0.00
TOTALS (lbs/day, mitigated)	2.45	20.67	15.29	0.05	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	PM10	SO2
TOTALS (ppd, unmitigated)	1,531.59	1,195.03	15,536.92	142,028.22	9.73

Source: URBEMIS 2001 for Windows v. 6.2.2(Detailed Report Included in DRAFT EIR FOR WESTSIDE INDUSTRIAL SPECIFIC PLAN , Volume 2, Technical Appendix)

5.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT AQ-1: **Implementation of the Westside Industrial Specific Plan could conflict with or obstruct implementation of the applicable air quality plan.**

Level of Significance: **Potentially Significant**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has adopted an Air Quality Management Plan and an Integrated Air Toxic Program. The SJVAPCD has also adopted two Attainment Plans and a Serious Area PM10 Nonattainment Plan.

Mitigation Measures:

AQ-1.1: Help improve air quality by actively cooperating with the San Joaquin Valley Air Pollution Control District, the California Air Resources Board, and the U.S. Environmental Protection Agency in achieving and maintaining ambient air quality standards. (Westside Industrial Specific Plan Resources Objective 4)

AQ-1.2: Work with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to implement the Air Quality Management Plan (AQMP). (Westside Industrial Specific Plan Resources Policy R-P-16)

AQ-1.3: In accordance with CEQA, submit development proposals to the APCD for review and comment prior to decision.

Residual Level of Significance: **Less Than Significant with Mitigation**

The above mitigation measures are intended to reduce conflicts between the proposed Westside Industrial Specific Plan and applicable air quality plans. The cooperation required in the above measures will help achieve the SJVAPCD's Air Quality Management Plan, Integrated Air Toxic Program, Attainment Plans, as well as any future air quality plans.

POTENTIAL IMPACT AQ-2: **Implementation of the Westside Industrial Specific Plan could violate air quality standards, or contribute substantially to the current nonattainment status for ozone and PM10.**

Level of Significance: **Significant and Unavoidable**

The San Joaquin Valley is currently designated as "servere nonattainment" for the state ozone 1-hour standard, and "extreme nonattainment" for the 1-hour ozone, "serious nonattainment" for

the 8-hour ozone and 24-hour fine particulate matter (PM10) federal standards. Table 5-2 above lists the California and national ambient air quality standards. Table 5-6 shows the ozone trends summary from 1993–2003 for the San Joaquin Valley Air Basin. Table 5-7 gives the PM10 trends summary for the same period.

The only areas in the United States designated as "extreme nonattainment" for the federal 1-hour ambient air quality standard for ozone are the San Joaquin Valley and Los Angeles. **(3)**

Table 5-6
Ozone Trends Study
San Joaquin Valley Air Basin

	DAYS > STANDARDS FOR OZONE			**1-HOUR MAX**	**8-HOUR MAX**
YEAR	1-Hour State	1-Hour National	8-Hour National	(ppm)	AVG (ppm)
2003	137	37	134	0.156	0.127
2002	127	31	125	0.164	0.132
2001	123	32	109	0.149	0.120
2000	114	30	103	0.165	0.131
1999	123	28	117	0.155	0.123
1998	90	39	84	0.169	0.136
1997	110	16	95	0.147	0.127
1996	120	56	114	0.165	0.137
1995	124	44	109	0.173	0.134
1994	118	43	108	0.175	0.129
1993	125	43	104	0.160	0.125

Source: Extracted from California Air Resources Board (CARB), Air Quality and Emissions/Air Quality Data, www.arb.ca.gov., June 2004.

Table 5-7

PM10 Trends Study

San Joaquin Valley Air Basin

YEAR	DAYS > STANDARDS FOR PM10		Annual Average (micrograms/m3)
	State	National	
2003	167	0	52.4
2002	256	8	59.2
2001	168	12	57.4
2000	196	0	53.1
1999	182	12	59.5
1998	102	6	39.9
1997	107	3	48.2
1996	204	0	54.1
1995	184	8	58.2
1994	166	8	50.1
1993	183	11	56.3

Source:Extracted from California Air Resources Board (CARB), Air Quality and Emissions/Air Quality Data, www.arb.ca.gov., June 2004.

Any additional sources of these pollutants will contribute to this nonattainment status. Therefore, there are no mitigation measures which will reduce the impact to less than significant. However, the mitigation measures listed below are intended to reduce the net increase from implementation of the WISP project.

Mitigation Measures:

AQ-2.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to **local and regional air quality** and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10 and Turlock General Plan Policy 2.5-h)

AQ-2.2: Large projects exceeding the San Joaquin Valley Air Pollution Control District's thresholds of significance for ozone precurors (10 tons per year for reactive organic gases, ROG, and/or oxides of nitrogen (NOx) and are unable to mitigate the project's impacts to a less-than-significant impact in accordance with the District's Guide for Assessing Mitigating Air Quality Impacts (GAMAQI) shall be subject to payment into the City of Turlock's Air Quality Trust Fund. The fund is utilized to pay for projects located throughout the City that improve air

quality typically by promoting alternative modes of transportation. (Westside Industrial Specific Plan Resources Policy R-P-21)

Burning Restrictions

AQ-2.3: Burning of any combustible material within the Plan Area shall be strictly controlled to minimize particulate air pollution, and shall occur only on days permitted by the SJVAPCD. (Westside Industrial Specific Plan Resources Policy R-P-20)

Transportation and Circulation

AQ-2.4: Increase opportunities and incentives for carpooling. (Westside Industrial Specific Plan Resources Policy R-P-19)

AQ-2.5: Develop a land use plan that will help to reduce the need for trips and will facilitate the use of public transportation, walking, bicycles, carpooling, and alternative fuel vehicles. (Westside Industrial Specific Plan Resources Policy R-P-25)

AQ-2.6: Locate higher density development such as employment centers and retail along existing and proposed transit corridors. (Westside Industrial Specific Plan Resources Policy R-P-26)

AQ-2.7: Develop and maintain street systems that provide for efficient traffic flow and thereby minimize air pollution from automobile emissions. (Westside Industrial Specific Plan Resources Policy R-P-27)

AQ-2.8: Develop and maintain circulation systems that provide alternatives to the automobile for transportation, including bicycle routes, pedestrian paths, bus transit, and carpooling. (Westside Industrial Specific Plan Resources Policy R-P-28)

AQ-2.9: Reserve appropriate easements to provide for future improvements such as bus turnouts, loading areas, and shelters. (Westside Industrial Specific Plan Resources Policy R-P-29)

AQ-2.10: Maintain acceptable traffic levels of service (LOS) as specified in the General Plan Circulation Element. (Westside Industrial Specific Plan Resources Policy R-P-30)

AQ-2.11: Follow guidelines included in the California Air Resources Board (CARB) October 2000 publication, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

Energy Efficiency

AQ-2.12: Employ energy efficient design, including automated control systems for heating/air conditioning and energy efficiency beyond Title 24 requirements, lighting controls and energy-efficient lighting in buildings, increased insulation beyond Title 24 requirements, and light colored roof material to reflect heat. (Westside Industrial Specific Plan Resources Policy R-P-22)

AQ-2.13: Plant deciduous trees on the south- and west-facing sides of buildings. (Westside Industrial Specific Plan Resources Policy R-P-23)

AQ-2.14: Use low nitrogen oxide (NOx) emitting and/or high efficiency water heaters. (Westside Industrial Specific Plan Resources Policy R-P-24)

Construction Activities

AQ-2.15: Comply with the SJVAPCD Compliance Assistance Bulletin for Fugitive Dust Control at construction sites. (Westside Industrial Specific Plan Resources Policy R-P-34)

AQ-2.16: Project development applicants shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction. (Westside Industrial Specific Plan Resources Policy R-P-35)

AQ-2.17: Construction activity plans shall include and/or provide for a dust management plan to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. (Westside Industrial Specific Plan Resources Policy R-P-36)

AQ-2.18: Soils stabilization is required at all construction sites after normal working hours and on weekends and holidays, as well as on inactive construction areas during phased construction. Methods include short-term water spraying, and long-term dust suppressants and vegetative cover. (Westside Industrial Specific Plan Resources Policy R-P-37)

AQ-2.19: Construction equipment shall be equipped with particulate filters and/or catalysts, or proof shall be provided as to why it is infeasible. (Westside Industrial Specific Plan Resources Policy R-P-38)

AQ-2.20: Diesel engines shall be shut off while not in use to reduce emissions from idling. Minimize idling time of all other equipment to 10 minutes maximum. (Westside Industrial Specific Plan Resources Policy R-P-39)

AQ-2.21: Sandbags, or other erosion control measures, shall be installed to prevent silt runoff to public roadways from construction sites with a slope greater than one percent (1%). (Westside Industrial Specific Plan Resources Policy R-P-40)

AQ-2.22: Wheels on all trucks and other equipment shall be washed prior to leaving the construction site. (Westside Industrial Specific Plan Resources Policy R-P-41)

AQ-2.23: Wind breaks shall be installed at windward sides of construction areas. (Westside Industrial Specific Plan Resources Policy R-P-42)

AQ-2.24: Suspend excavation and grading activities when winds exceed 20 mph. (Westside Industrial Specific Plan Resources Policy R-P-43)

AQ-2.25: Limit areas subject to excavation, grading, and other construction activities at any one time. (Westside Industrial Specific Plan Resources Policy R-P-44)

AQ-2.26: Limit and expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours. (Westside Industrial Specific Plan Resources Policy R-P-45)

AQ-2.27: Use alternative fuel construction equipment, where feasible. (Westside Industrial Specific Plan Resources Policy R-P-46)

AQ-2.28: Construction activities shall be curtailed during periods of high ambient pollutant concentrations. This may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways, including SR 99. (Westside Industrial Specific Plan Resources Policy R-P-47)

AQ-2.29: Follow guidelines included in the California Air Resources Board (CARB) October 2000 publication, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.

POTENTIAL IMPACT AQ-3: **Implementation of the Westside Industrial Specific Plan would result in a cumulatively considerable net increase in ozone and PM10 air pollutants.**

Level of Significance: **Significant and Unavoidable**

Given that the San Joaquin Valley is currently designated as "servere nonattainment" for the state ozone 1-hour standard, and "extreme nonattainment" for the 1-hour ozone, "serious nonattainment" for the 8-hour ozone and 24-hour fine particulate matter (PM10) federal standards, there are no mitigation measures to reduce the cumulative net increase of these air pollutants when proposing additional urban development. The mitigation measures listed above for Potential Impact AQ-2 may help reduce the level of cumulatively considerable net increase.

POTENTIAL IMPACT AQ-4: Implementation of the Westside Industrial Specific Plan could result in a substantial increase in toxic air pollutants.

Toxic air pollutants, such as asbestos, can be emitted during demolition of buildings containing toxic contaminants, and during operation of industries that utilize toxic substances. The Federal and State governments have implemented a number of programs to control toxic air emissions.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has developed an Integrated Air Toxic Program. This program integrates both state and federal requirements and is aimed at protecting public health. The District is implementing rules to control emissions from specific sources of toxic air pollutants. As part of the District's Risk Management Policy, certain businesses are required to obtain a permit to emit toxic air pollutants.

Level of Significance: Potentially Significant

Mitigation Measures:

AQ-4.1: Minimize public exposure to toxic or hazardous air pollutants. (Westside Industrial Specific Plan Resource Policy R-P-17)

AQ-4.2: Comply with the National Emission Standards for Hazardous Air Pollutants (NESHAPS) and the SJVAPCD Compliance Assistance Bulletin, Asbestos Synopsis, during renovation and/or demolition of existing buildings, specifically as it relates to asbestos. (Westside Industrial Specific Plan Resource Policy R-P-18)

Residual Level of Significance: Less Than Significant With Mitigation

Compliance with required standards and procedures will prevent and/or reduce the occurrence of toxic air pollutants.

POTENTIAL IMPACT AQ-5: Implementation of the Westside Industrial Specific Plan could expose sensitive receptors to substantial pollutant concentrations.

Level of Significance: Potentially Significant

Mitigation Measures:

AQ-5.1: Design industrial development to minimize potential community impacts adversely affecting **residential** and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P- 10)

AQ-5.2: Prior to entitlement of a project that may be an air pollution point source, such as a manufacturing and extracting facility, the developer shall provide documentation that the use is located and appropriately separated from residential areas and other sensitive receptors (e.g., homes, schools, and hospitals). (Westside Industrial Specific Plan Resources Policy R-P-31)

AQ-5.4: Buffer zones (setbacks, landscaping) shall be used to protect sensitive receptors from **potential air pollution,** odor and hazardous wastes generated by industrial and manufacturing facilities.

Residual Level of Significance: Less Than Significant With Mitigation

Implementation of the above mitigation measures will help protect sensitive receptors from exposure to air pollutants. These measures require land use siting and separation, and the use of buffers to protect sensitive receptors.

POTENTIAL IMPACT AQ-6: Implementation of the Westside Industrial Specific Plan could create objectionable odors affecting a substantial number of people.

Level of Significance: Potentially Significant

There are no proposed land uses in the Westside Industrial Specific Plan which are expected to create objectionable odors that would affect a substantial number of people. However, it may be a possibility that odors could be produced by the proposed industrial land uses.

Mitigation Measures:

AQ-6.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and **odor**, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10)

AQ-6.2: Minimize public exposure to pollutants that create a public nuisance, such as unpleasant odors. (Westside Industrial Specific Plan Resources Policy R-P-32)

AQ-6.3: Segregate and provide buffers between land uses that typically general hazardous or obnoxious fumes and residential or other sensitive land uses. (Westside Industrial Specific Plan Resources Policy R-P-33)

Residual Level of Significance: Less Than Significant with Mitigation

Implementation of the above mitigation measures will help reduce the possibility of exposing people to objectionable odors. If odors do result from the proposed industrial and manufacturing land uses, it is required that these odors be minimized.

References:

(1) San Joaquin Valley Air Pollution Control District. Air Quality Guidelines for General Plans. 1994.

(2) California Air Resources Board (CARB), Air Quality and Emissions, www.arb.ca.gov.

(3) Telephone Conversation with David Wamples, U.S. Environmental Protection Agency, San Francisco Office; June 2004; and www.yosemite.epa.gov.

(4) Telephone Conversation with Janie Eggers, SJVAPCD; June 2004; and www.valleyair.org.

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6. BIOLOGICAL RESOURCES

This biological resources section discusses impacts to wildlife and habitat within and adjacent to the Westside Specific Plan Study Area (WISP) boundary. Existing habitat types are identified and potential species discussed.

6.1 EXISTING CONDITIONS

Turlock was part of a larger grass- and marshland until approximately 150 years ago. Settlement, livestock, and intensive agriculture have significantly altered the landscape and destroyed all traces of most native plants and animal species and their habitats **(1)**.

WISP is located on a plain 85-95 feet above mean sea level, approximately eight miles east of the San Joaquin River. This plain is situated between two of the San Joaquin River tributaries: the Tuolumne River approximately 10 miles to the north and the Merced River, approximately six miles to the south. (See Figure 6-1, Study Area Setting).

Existing land uses in the WISP Study Area are primarily agricultural, industrial, rural residential, and commercial. As is true for the area in general, historical agricultural practices were not consistent with maintaining wildlife habitat, and therefore, biological resources are scarce and widely separated.

Three field reconnaissance surveys were conducted, on July 18, 2003, February 11, 2004, and April 7, 2004. Seven habitat types were identified which may potentially be affected by the proposed project. These habitat types are discussed below.

6.1.1 Habitat Characterization

The seven (7) habitat types identified within the WISP Study Area include:

- Agricultural Fields
- Orchards
- Annual Grasslands and Pastures
- Irrigation Ditches and Canals
- Ruderal (Waste) Areas
- Detention Basins
- Landscaped Areas

Figure 6-1

Study Area Setting

Agricultural Fields

A substantial portion of the Study Area is comprised of leveled cultivated fields. Individual fields with various crop types are separated by access roads, fence lines, and/or irrigation ditches/canals.

Vegetation

The plant composition is generally a monotypic variety of cultivated crops, which may include grain, alfalfa hay, melons, tomatoes, and strawberries. Small ruderal (waste) areas along access roads, ditches and field edges may contain weedy non-native vegetation species, as discussed below.

Wildlife

The farmed fields represent marginal-to-low quality habitat for most wildlife species. Small mammals and invertebrates that may be considered pest species are usually eliminated by some form of active management that may include pesticide and trapping programs. Although not listed by the California Natural Diversity Database (CNDDB) for this area, Swainson's hawks (*Buteo swainsoni)* in the Central Valley are known to forage within actively farmed areas, particularly row crops and alfalfa fields during and after harvest. Other birds that utilize the leveled farm fields for foraging include American pipit (*Anthus rubescens*), killdeer (*Charadrius vociferus*), and western meadowlark (*Sturnella neglecta*).

While agricultural fields are artificially maintained and annually harvested, they may provide important habitat for the Central Valley's wintering bird population.

Orchards

A portion of the Study Area is comprised of orchard. Individual orchards are situated among the agricultural fields. As with the agricultural fields, these areas are separated by access roads, fence lines, and/or irrigation ditches and canals.

Vegetation

Vegetation within orchards is typically monotypic, and structural diversity is typically low. Fruit and nut trees are dominant, with almonds representing a major share. A variety of other fruit and nut trees may include apples, pears, and walnuts. These trees form a canopy above undergrowth of short-stature annual grasses, which may be subject to periodic herbicide applications.

Wildlife

In general, orchards have less value as habitat than other agricultural lands. They are typically heavily managed for the control of "pest" species, such as small mammals and invertebrates. However, orchards have functional value as food sources for various forms of wildlife and corridors for migratory wildlife. Birds that may be found within orchards include northern mockingbird (*Mimus polyglottos*), Western bluebird (*Sialia mexicana*), yellow-billed magpie (*Pica nattallii),* American crow (*Corvus brachyrhynchos*), and American robin (*Turdus migratorius*).

Orchard

Annual Grasslands and Pastures

Annual grasslands and pastures are discussed together because of the similarity of their habitat characteristics. A number of these areas exist throughout the Study Area, but the majority are located near West Main Street and near West Linwood Avenue.

Vegetation

The vegetation of the annual grassland habitat includes many of the same species found in ruderal (waste) areas. The grassland habitat differs from the ruderal area habitat in that the grassland is typically larger in size, and is characterized as relatively open upland area. The grassland habitat and ruderal areas adjacent to roadsides and agricultural fields may contain wild oats (*Avena sp*.), soft brome (*Bromus hordeaceus*), annual bluegrass (*Poa annua*), and annual ryegrass (*Lolium multiflorum*).

Pastures may be irrigated, which would extend the presence of green vegetation throughout the year, rather than becoming dry and golden during the hot summer months.

Wildlife

In addition to the wildlife species typically found in ruderal areas, annual grassland communities in this region typically support the common king snake (*Lampropeltis getulus*), California ground squirrel (*Spermophilus beecheyi*), California vole or meadow mouse (*Microtus californicus*), and western meadowlark (*Sturnella neglecta*).

Irrigation Ditches and Canals

Multiple irrigation ditches are found throughout much of the Study Area. Many of these are paved canals which branch from the Canal Drive system.

Vegetation and Wildlife

The irrigation ditches/canals may support ruderal (waste) habitat. As shown in the first photograph below, these irrigation ditches/canals may support weedy non-native species typical of ruderal area vegetation during off-season and fallow agricultural periods. These vegetation species and the wildlife supported by them are discussed below.

The second photograph below shows the groomed, open water irrigation canals within Canal Drive. Due to intensive weed control and moving water, little or no vegetation is found along such irrigation canals, and few wildlife species would be supported under such conditions.

Irrigation Canal (Dry/Off-Season, or Fallow)

Irrigation Canal (Groomed, Open Water)

Ruderal (Waste) Areas

Ruderal areas are "waste" areas that may found along roadsides, fence lines, agricultural fields and orchards, irrigation ditches/canals, and in drainage ditches.

Vegetation

The vegetation found in ruderal areas may include bull thistle (*Cirsium vulgare*), mustard (*Brassica ssp.*), radish (*Raphanus sativus*), puncture vine (*Tribulus terrestris*), and ripgut brome (*Bromas diandrus*). Hydrophytic plants (those requiring wet conditions) are dominant in wetter areas (ditches/canals and low-lying areas). These include mallow (*Malvaceae family*), dallisgrass (*Paspalum dilatatum*), Kentucky fescue (*Festuca arundianciae),* and Bermuda grass (*Cynodon dactylon*). Other aquatic or semi-aquatic plants that may occur at the edges of fields include prickle grass (Crypsis sp.), Bermuda grass (*Cynodon dactylon*), and barnyard grass (*Echinochloa crusgalli*).

Wildlife

The ruderal weedy areas may provide habitat for deer mice (*Peromyscus maculatus*) and house mice (*Mus musculus*), among other small mammals. Songbirds such as savannah sparrows (*Passerculus sandwichenisis*) and reptiles including western fence lizard (*Sceloporus occidentalis*) may also be found within these weedy areas. These small mammals, birds, and reptiles are in turn preyed upon by raptors including northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and American kestrel (*Falco sparverius*).

Drainage Ditch (Dry) and Agricultural Field Edge with Ruderal (Waste) Vegetation

Detention Basins

There are three existing detention basins within the Study Area, shown on Figure 6-2.

Vegetation

Vegetation typical of ruderal areas is also found in and around the Study Area detention basins, particularly hydrophytic plants (those requiring wet conditions), and aquatic and semi-aquatic plants (those growing in open water or seasonal standing water).

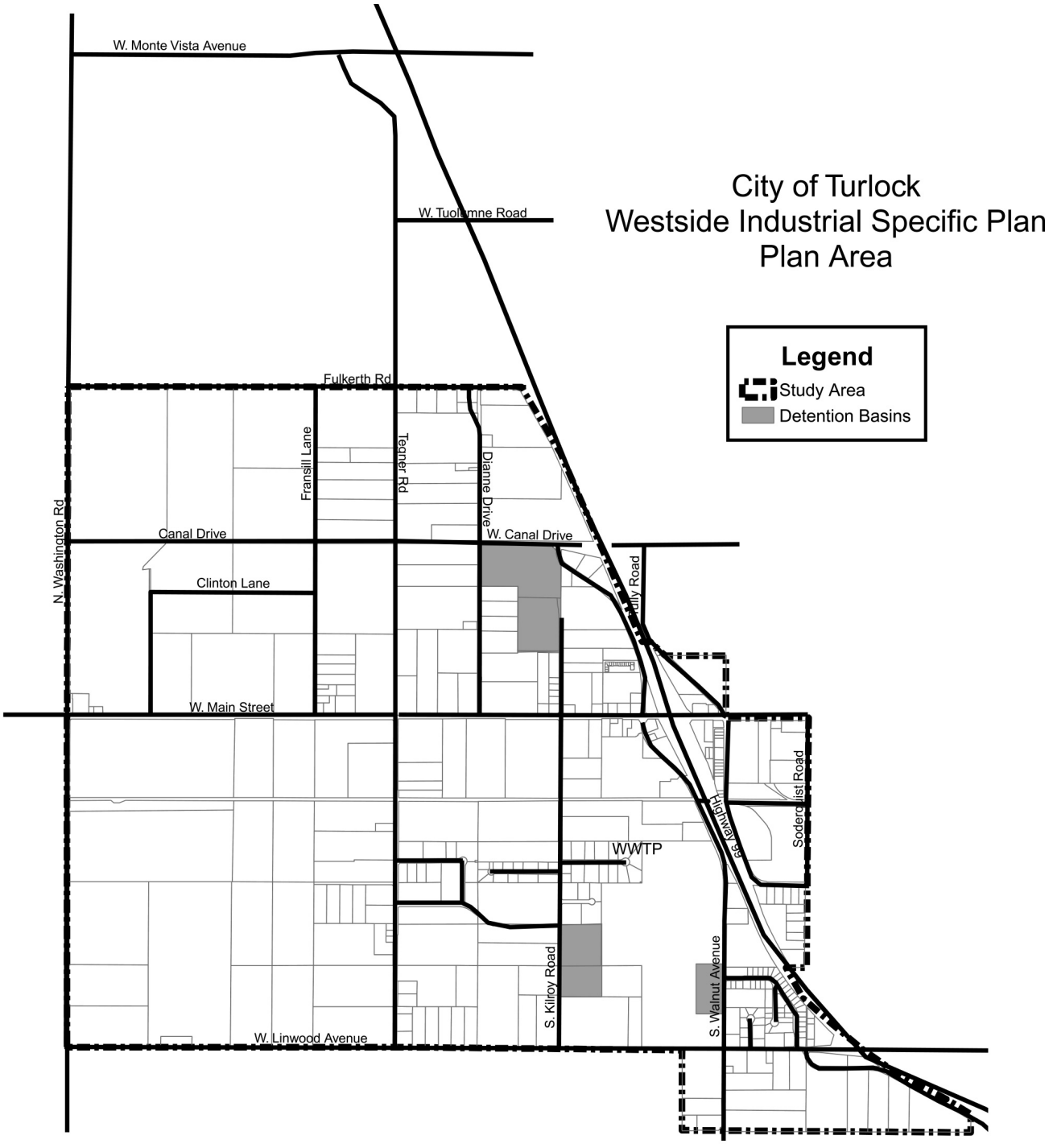
Wildlife

Wildlife species typical of ruderal areas may also be found on the edges of this habitat. However, the detention basins also provide open water/standing water habitat Water fowl and shorebirds were observed in the detention basins during field reconnaissance, including mallard ducks (*Anas platyrhynchos*) and sandpipers (*Calidris sp.*). Water fowl and shorebirds may also frequent the sewage settling ponds at the Turlock Irrigation District's Wastewater Treatment Plant.

Detention Basin (Dianne Drive near Canal Drive)

Figure 6-2

Locations of Existing Detention Basins



Landscaped Areas

This habitat type is land already converted from open space use by development. This includes landscaping along City streets, the landscaped grounds in industrial and commercial areas, as well as the landscaped yards of rural residential homes and farmhouses.

Vegetation

Vegetation within these landscaped areas is largely comprised of non-native cultivated trees with maintained lawns of ryegrass, bluegrass, and/or Bermuda grass.

Landscaped Area, Industrial Facility

Wildlife

Wildlife within landscaped areas include many generalist species such as house mouse (*Mus musculus*), striped skunk (*Mephitis mephitis*), European starling (*Sturnus vulgaris*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), and house sparrow (*Passer domesticus*).

6.1.2 Special Status Biological Resources

Special status biological resources include California state or federal listed, candidate, or proposed rare, threatened, and endangered, and sensitive animals, plants, and natural communities that have been afforded special status by public agencies or major conservation organizations.

California Department of Fish and Game: California Natural Diversity Database (CNDDB)

A computerized search of the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) was requested for four U.S.G.S. 7.5 minute quadrangles for the WISP Study Area (Appendix D, Volume 2 Technical Appendix) **(2)**. The Study Area is located at the convergence of the Turlock, Denair, Ceres, and Hatch Quadrangles. The CNDDB computer search reported no special status species or natural communities recorded within or adjacent to the Study Area.

Swainson's Hawk

As stated above under the agricultural field habitat discussion, Swainson's hawks (*Buteo swainsoni)* are known to forage in actively farmed areas within the Central Valley, particularly row crops and alfalfa fields during and after harvest. The Swainson's hawk is a State Threatened Species, a Federal Species of Concern, and a Migratory Bird Treaty Act-protected species (please see Notes at the end of this EIR section).

Swainson's hawks were once found throughout California except in the mountainous regions of the state. Today, Swainson's hawks are mostly limited to a few areas of the Great Central Valley and the Great Basin. The best remaining habitat for these hawks is found along permanent waterways with a continuous canopy of trees for nesting, with grassland, irrigated pasture, row crops, alfalfa or grain fields nearby for foraging. According to the 1994 California Department of Fish and Game (CDFG) guidelines, suitable foraging habitat may be located within a ten-mile radius from an active nest site. Swainson's hawk nest sites are protected pursuant to the California Endangered Species Act (CESA), and impacts to foraging habitat may require mitigation.

According to the CDFG CNDDB (Appendix D, Volume 2 Technical Appendix), Swainson's hawk nests have been recorded within the region: three sites along the San Joaquin River, two sites along the Tuolumne River, and one site along the Merced River. Therefore, the WISP Study Area may be within the ten-mile foraging radius of active Swainson's hawk nest sites.

Tricolored Blackbird

The CDFG CNDDB (Appendix D, Volume 2 Technical Appendix) also lists the special status tri-colored blackbird (*Agelaius tricolor*) within the area, but not within the WISP Study Area. These birds nest in emergent marsh, riparian scrub, or other thickets usually in or near standing water, and require nearby forage areas. This habitat type does not currently exist within or adjacent to the Study Area.

Migrating and Wintering Birds

Although not recorded by the CDFG CNDDB computer search, there are birds which may forage in the agricultural areas of the WISP Study Area during migration, including wintering birds which may forage in the pastures and annual grasslands of the area. Although these habitat types are relatively small in size within the Study Area, the wintering birds that are known to forage in the pastures and grasslands of the San Joaquin Valley include the bald eagle (*Haliaeetus leucocephalus*), golden eagle (Aquila chrysaetos), ferruginous hawk (Buteo regalis), and mountain plover (Charadrius montanus). The bald eagle is a Federal Threatened (FT) species and a California Species of Special Concern (CSC). The golden eagle is a California Fish and Game Code Fully Protected Species (CFP). The ferruginous hawk is a Federal Species of Concern (FSC) and a California Species of Special Concern (CSC). The mountain plover is a California Species of Special Concern (CSC) (please see Notes at the end of this EIR section).

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) also provided a compilation of federal special status species that may occur in or be affected by projects within the Turlock, Denair, Ceres, and Hatch Quadrangles **(3)**. This compilation is included as Appendix E in the Technical Appendix to this EIR (Volume 2).

6.1.3 Federal Regulation

United States Fish and Wildlife Service Regulation

The United States Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), the Federal Endangered Species Act (ESA, 16 USC Section 153 et seq.), and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Migratory Bird Treaty Act (MBTA)

The Federal Migratory Bird Treaty Act implements domestically a series of treaties between the United States and Great Britain (acting for Canada), Mexico, Japan and Russia. The Act, first enacted in 1918, protects international migratory birds, and authorizes the Secretary of the Interior to regulate the "taking" of migratory birds. The USFWS interprets the Act's protection

to be "zero loss" of migratory birds. However, the courts have recognized that liability for birds flying into such obstacles as structures, plate glass windows, and aircraft is unreasonable, and that the test of compliance is good faith and reasonable care. Precedence exists that reasonable mitigation measures are acceptable where complete avoidance of migratory bird loss was infeasible.

U.S. Army Corps of Engineers Regulation

Under Section 404 of the Federal Clean Water Act, the U.S. Army Corps of Engineers (Corps) has authority to regulate activity that could discharge fill or dredge material, or otherwise adversely modify wetlands or other waters of the United States.

Clean Water Act

The Clean Water Act and the guidelines outlined in a Memorandum of Agreement (MOA) between the Environmental Protection Agency and the Corps dated November 15, 1989, established the goal of restoring and maintaining existing aquatic resources. The MOA directed the Corps (1) to strive to avoid adverse impacts, and offset unavoidable adverse impacts, to existing aquatic resources; and (2) to strive to achieve a goal of "no overall net loss" of the values and functions of wetlands. These guidelines apply to all waters of the United States, and require mitigation based on "values and functions" for all aquatic resources that are impacted.

Waters of the United States include perennial and intermittent streams, their tributaries, lakes, rivers, ponds and adjacent wetlands. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils conditions."

In 2001, the U.S. Supreme Court ruled that the Corps has jurisdiction only over wetlands that are adjacent to navigable Waters of the United States, interstate water, all other waters where the use, degradation, or destruction could affect interstate or foreign commerce, or tributaries to any of these waters. The Corps has historically claimed jurisdiction over "isolated" water as well. This court ruling also substantially weakened federal protection over non-tidal wetlands that are not part of or adjacent to navigable Waters of the United States. The Corps is currently evaluating its jurisdiction over isolated wetlands on a case-by-case basis.

The Corps has developed a number of nationwide general permits for activities which have only minimal individual and cumulative impacts where the work meets certain criteria and conditions. Nationwide Permits (NWP) cover minor road crossings, utility line backfills, repair of existing structures, bank stabilization, and other routine discharges of dredged or fill material. Some work authorized by nationwide permits requires pre-construction notification, or reporting, and individual water quality certification or a waiver, from the California Regional Water Control Board under Section 401 of the Clean Water Act. Typically, permits issued by the Corps are a

condition of a project as mitigation to offset unavoidable impacts on wetlands and other waters of the United States, in a manner that achieves the goal of "no net loss" of wetland acres or values as required by Executive Order 11990.

If the nationwide permit conditions cannot be met, then those projects may be authorized by other general permits or individual permits. The range of project alternatives should include alternatives that avoid impacts to wetlands or other waters of the United States. When it can be clearly demonstrated that there are no practicable alternatives to filling these waters, mitigation plans should be developed to compensate for the project impacts.

On January 15, 2002, the Corps announced the re-issuance of all existing NWP's to be effective on March 18, 2002 and to expire on March 19, 2007. The new NWP's maintain the less-than-one-half acre average threshold for use of NWP's, as previously modified in March of 2000, when the Corps reduced the acreage threshold from three (3) acres to one-half (1/2) acre. Therefore, any project that impacts more than one-half acre of wetlands will require an individual permit. Also, any project that impacts more than 300 linear feet of streambed will require an individual permit.

6.1.4 State Regulation

California Department of Fish and Game Regulation

The California Department of Fish and Game (CDFG) derives its authority from the Fish and Game Code of California. Species listed under the California Endangered Species Act (CESA) cannot be "taken" without adequate mitigation and compensation.

The CESA definition for take is defined as any activity that would directly or indirectly kill an individual of a species, but does not include "harm" or "harass" as in the FESA. As a result, habitat modification is not necessarily considered a take under CESA. The take of state-listed species requires an incidental take permit under the Fish and Game Code Section 2081. CDFG also coordinates with USFWS during the Section 10 process to make the federal permit consistent with CESA.

CDFG receives its authority to designate and protect rare plants under the California Native Plant Protection Act of 1977 (CDFG Code Section 1900 et seq.). CEQA Guidelines Section 15380 defines "rare" in a broader sense than the definitions of threatened, endangered, or species of special concern. Guidelines issued by the Director of CDFG state that plants in the California Native Plant Society (CNPS) 1B category fulfill the criteria of "rare" under Section 15380 of the CEQA Guidelines, and should be included in environmental impact reports and mitigations. CDFG guidelines do not carry the obligations of law or regulation, but CDFG views this policy as a means to avoid project delays in addressing species issues of which the applicant was not

formerly notified. CDFG can request additional consideration of species not otherwise protected under this definition.

Fish and Game Code Section 3511 describes bird species, primarily raptors, which are "fully protected." These birds may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds of prey, and their eggs and nests.

Section 1601 through 1607 of the CDFG Code prohibit all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources, without the consent of CDFG. The limit of CDFG jurisdiction is up to the 100-year flood level. This would apply to any channel modifications that would be required to meet drainage, transportation, or flood-control objects of the projects.

Species of Special Concern (CSC) is a category conferred by CDFG for those species which are considered to be indicators of regional habitat changes, or are considered to be potential future protected species. CSC do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Endangered Species Act (CESA)

The California Endangered Species Act (Fish and Game Code Section 2050 et seq.) is similar to the Federal ESA, but it pertains to state-listed endangered and threatened plant and wildlife species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents in order to ensure that lead agency actions do not jeopardize listed species. It directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify "reasonable and prudent alternatives" to a project consistent with conserving the species. A lead agency can approve a project that affects a listed species if it is determined that there are "overriding considerations;" however, agencies are prohibited from approving projects that would cause the extinction of a listed species. At this time, based upon the opinion of the California Attorney General's Office, "take" does not prohibit indirect harm by way of habitat modification.

6.1.5 Stanislaus County General Plan

Approximately 58 percent of the WISP Study Area is within the incorporated boundary of the City of Turlock. Therefore, approximately 42 percent of the Study Area remains under the jurisdiction of Stanislaus County. The City will annex the adjacent Stanislaus County unincorporated area as the Plan Area develops.

The Conservation/Open Space Element (Chapter 3) of the October 1994 Stanislaus County General Plan includes the following applicable Goals:

Goal One: Encourage the protection and preservation of natural and scenic areas throughout the County.

Goal Ten: Protect fish and wildlife species of the County.

6.1.6 City of Turlock General Plan

The Open Space and Conservation Element (Section 6) of the existing 1992 General Plan includes the following Policies which intend to protect, preserve, and enhance biological resources in the City of Turlock:

Guiding Policy 6.5-a: Make efforts to enhance the diversity of Turlock's flora and fauna. Street trees should be included in the effort.

Implementing Policy 6.5-b: Consider creation of suitable habitats that can support a variety of plant and animal species in designing new open space such as large community parks.

Implementing Policy 6.5-c: Consider the requirement of biological assessments in conjunction with the preparation of new area-wide plans.

Implementing Policy 6.5-d: Consider establishment of special environmental review procedures, such as site reconnaissance and certification by a biologist, as part of the project development application process if new information to support existence of a Rare, Endangered, or Threatened species becomes available.

6.2 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact on the environment if the project would:

1) have a substantial adverse effect, either directly or through habitat modification, 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;

2) have a substantial 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 Game or U.S. Fish and Wildlife Service;

3) 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, filling, hydrological interruption, or other means;

4) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

5) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6.3 IMPACTS AND MITIGATION

POTENTIAL IMPACT B-1: Implementation of the Westside Industrial Specific Plan (proposed project) could result in the loss of identified special status species.

The California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) computer search reported no special status species or natural communities recorded within or adjacent to the Study Area.

However, according to the CNDDB (Appendix E, Volume 2 Technical Appendix), Swainson's hawk (*Buteo swainsoni*) nests have been recorded within the region: three sites along the San Joaquin River, two sites along the Tuolumne River, and one site along the Merced River. Therefore, the WISP Study Area may be within the ten-mile foraging radius of active Swainson's hawk nest sites.

The Swainson's hawk is a State Threatened Species, a Federal Species of Concern, and a Migratory Bird Treaty Act-protected species.

No Swainson's hawks were observed during field reconnaissance surveys in July, 2003, February, 2004, and April, 2004.

Level of Significance: Potentially Significant

Mitigation Measures:

B-1.1 If Swainson's hawks are found foraging in an agricultural area prior to or during construction, project proponents shall consult a qualified biologist for recommended proper action, and incorporate appropriate mitigation measures. (Westside Industrial Specific Plan Resources Policy R-P-1)

B-1.2 Project proponents shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies. (Westside Industrial Specific Plan Resources Policy R-P-2)

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented.

The major permitting agencies are discussed above in Section 6.2.

POTENTIAL IMPACT B-2: **Implementation of the Westside Industrial Specific Plan (WISP) could result in the loss of riparian habitat or other sensitive natural communities.**

There are no riparian habitats or other sensitive natural communities within or adjacent to the WISP Study Area.

Level of Significance: **No Impact**

POTENTIAL IMPACT B-3: **The Westside Industrial Specific Plan (WISP) may have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, or hydrological interruption.**

Federally protected (jurisdictional) "waters of the United States" include perennial and intermittent streams, their tributaries, lakes, rivers, ponds and adjacent wetlands.

There are no federally protected wetlands as defined by Section 404 of the Clean Water Act within or adjacent to the WISP Study Area.

Level of Significance: **No Impact**

POTENTIAL IMPACT B-4: **Implementation of the Westside Industrial Specific Plan (WISP) could substantially interfere with the movement of wildlife species or with established native or migratory wildlife corridors.**

There are no established native or migratory wildlife corridors through the Study Area. However, some species of birds may forage in the Study Area agricultural fields during migration, as discussed in Section 6.1.2 above.

Level of Significance: **Potentially Significant**

Mitigation Measures:

B-4.1 Project proponents shall satisfy applicable U.S. Endangered Species Act (ESA), California Endangered Species Act (CESA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and other applicable local, state, and federal laws and regulation provisions through consultations with the Permitting Agencies and local planning agencies, and incorporation of appropriate mitigation measures. (Westside Industrial Specific Plan Resources Policy R-P-2)

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be mitigated to less than significant if the above mitigation measure is implemented.

POTENTIAL IMPACT B-5: **The proposed WISP project may conflict with local policies or ordinances protecting biological resources.**

The WISP project proposes liberal planting of street trees, including orchard trees, which is in compliance with the Turlock General Plan Open Space and Conservation Element Guiding Policy 6.5-a. There are no other biological resource protection policies or ordinances with which the proposed project may conflict.

Level of Significance: **No Impact**

POTENTIAL IMPACT B-6: **Impacts on biological resources from the buildout of the WISP Study Area may be cumulatively significant.**

The impact of expanding urban development on biological resources may be cumulatively significant. Birds forage in the agricultural areas of the WISP Study Area during migration, including wintering birds which may forage in the pastures and annual grasslands of the area. Although these habitat types are relatively small in size within the Study Area, wintering birds are known to forage in the pastures and grasslands of the San Joaquin Valley. This impact would be especially significant if special status species, such as Swainson's hawk, were found foraging

within the Study Area agricultural fields. As discussed above in Section 6.1.2, the WISP Study Area may be within the ten-mile foraging radius of documented active Swainson's hawk nest sites.

Level of Significance: Significant

Each project proponent will be proceeding under the "project-by-project" evaluation and mitigation process with each permitting agency. Since project-by-project evaluation cannot reasonably foresee the overall effects on biological resources of individual projects under multiple agency control, cumulative impacts may result.

Notes

A California "State Threatened Species" is an animal or plant that is likely to become Endangered within the foreseeable future throughout all or a significant portion of its range. (An Endangered Species' survival and reproduction in the wild is in immediate jeopardy, and the species is in danger of extinction.)

A "Federal Threatened Species" is an animal or plant likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.

California "Species of Special Concern" are considered to be indicators of regional habitat changes, or are considered to be potential future protected species.

A "Federal Species of Concern" is an informal term referring to species which might be in need of concentrated action, although such species are not legally protected.

The "Migratory Bird Treat Act (MBTA)" implements treaties with Great Britain (for Canada), Mexico, Japan, and Russia for protection of migratory birds whose welfare is a Federal responsibility.

References

(1) City of Turlock General Plan, Open Space and Conservation Element Section 6, 1993. Page 6-21.

(2) California Department of Fish and Game (CDFG), California Natural Diversity Database (CNDDB). October, 2003.

(3) U.S. Fish and Wildlife Service (USFWS), Sacramento Fish and Wildlife Office, Special Status Species of the Turlock, Denair, Ceres, and Hatch Quadrangles. January, 2004.

7. CULTURAL RESOURCES

This section summarizes known historical and archaeological (prehistorical) resources within and adjacent to the Study Area. Potential impacts to cultural resources resulting from implementation of the proposed Westside Industrial Specific Plan (WISP) are identified.

This section is based upon and incorporates a cultural resources report authored by Ric Windmiller, Consulting Archaeologist, and Donald S. Napoli, Historian, entitled "City of Turlock Westside Industrial Specific Plan Background Reports: Archaeological Resources, Historical Resources, Records Search Results Existing Conditions (January, 2004)." This cultural resources report is included as Appendix F in Volume 2, Technical Appendix.

7.1 ARCHAEOLOGY (PREHISTORY AND ETHNOGRAPHY)

7.1.1 Information Resources

The Central California Information Center, California Historical Resources Information System (California State University, Stanislaus), conducted a records search for purposes of this cultural resources study. The records search did not list any previously recorded archaeological sites for the WISP Study Area. However, most of the Study Area has not been systematically surveyed for historic or archaeological resources. Only seven (7) cultural resource investigations are on record as having been completed within the Study Area boundaries. These seven investigations covered less than twenty-five percent (25%) of the WISP Study Area.

7.1.2 Native American Culture

The prehistory of the Turlock-Merced area is only poorly understood. Archaeologists have described finds on the basis of the culture sequences known for the greater Sacramento Delta to the north, Coast Range foothills to the west, and Sierra Nevada foothills to the east.

Little is known about the ethnography (description of a specific culture) of the Northern San Joaquin Valley. Besides extracting pieces of information from the writings of explorers, soldiers, missionaries and other early travelers, archaeology remains a most important source for reconstructing the region's aboriginal past.

The reconstructed prehistory of the region encompassing the WISP project site hypothesizes that California was inhabited primarily by Hokan speaking peoples between 10,000 and 6000 B.C. Evidence suggests that an adaptation of ancient cultures to lake, marsh and grassland habitats

along the eastern side of the Sierra Nevada occurred as early as 9000 B.C. It is suggested that this adaptation corresponds to the emergence and initial differentiation of Hokan languages.

Utian speaking peoples (including proto-Mikwokan speakers and, later, Yokutsan speaking people) entered the Lower Sacramento Valley probably from the northwest Great Basin/Columbian Plateau region around 2500 B.C. Between 1000 and 500 B.C., Yokutsan groups moved into the San Joaquin Valley and Central Sierra Nevada foothills from the Sacramento Delta region. Circa 500 to 100 B.C., Plains Miwok speaking populations expanded eastward into an older Utian/Yokutsan domain. By the time of Christ, the Sierra Miwok moved south, also displacing Yokuts groups.

After circa A.D. 400, there was a relatively rapid shift in climate from cool-and-moist to warm-and-dry conditions. It was during this dry interval that Yokuts speaking people may have abandoned marginal foothill and valley areas in favor of locations along delta waterways and principal tributaries. The archaeological evidence indicates a concentration of population along the San Joaquin River and its main tributaries around this time.

Improved climatic conditions around A.D. 1450 coincided with population growth resulting in patterns of settlement close to that observed by the first European explorers in the San Joaquin Valley. Yokuts populations once again expanded as water and water-dependent resources increased. By A.D. 1600-1700, Yokuts tribelets held almost the entire San Joaquin Valley.

The sluggish San Joaquin River formed the heartland of Northern Yokuts territory. Extending away from the river banks were vast tule-choked marshlands. Undulating plains bordered the marshes on the east as well as the west side of the Valley. The abundant natural resources of the marshlands and adjacent plains coincided with a largely sedentary lifestyle among Yokuts speaking people.

The earliest contact with Europeans came in the early 1800's when Spanish expeditions began to actively explore the Delta region and the San Joaquin Valley. Only a few native people were baptized during the early expeditions. However, missions began drawing neophytes from the native population, and intensive proselytizing (religious conversion) began around 1805 and continued into the 1820's. Large numbers of Yokuts people were taken to Missions San Jose, Santa Clara, Soledad, San Juan Bautista, and San Antonio. It was during the mission period that Yokuts militarism arose. This militarism continued after Mexico declared its independence from Spain, and California came under Mexican rule. As Yokuts raiding parties broadened their range, retaliatory expeditions were launched by local authorities. Local ranchers also formed posses to retrieve animals, and to bring back native women and children to serve as laborers and domestic servants.

In 1833, an epidemic, probably malaria brought south from Oregon by a party of trappers, decimated an estimated seventy-five percent (75%) of California's native population. In 1832, a year before the epidemic, hunter and trapper Colonel James J. Warner noted that there were

hundreds of Native Americans living along the Tuolumne and Stanislaus Rivers above the San Joaquin River. Many villages supported 50 to 100 dwellings. When Warner returned to the area a few months after the epidemic, he saw only six or eight live Native Americans.

The Gold Rush and the annexation of California to the Union proved disastrous to the remaining Yokuts people. Settlers drove the native people from their hunting and food-gathering lands. There was some resistance and retaliation among the native people; however, the tide of European Americans was too great to withstand. In 1850, plans for a reservation system were drawn up. The headmen of surviving groups signed treaties ceding all the land they owned or claimed in exchange for fairly adequate reservations. However, pressure from the new State of California prevented the United States Senate from ratifying the treaties.

7.1.3 Native American Archaeological Resources

The most easily recognized Native American archaeological site is the village mound with its distinctive dark gray midden, which was formed by deposits of refuse and accumulation of ash from fires. Such archaeological sites have been found along the San Joaquin River, along tributaries such as the Tuolumne and Merced Rivers, as well as near springs such as the Balck Rascal Creek sites. However, non-permanent archaeological sites such as temporary camp sites may not necessarily be located near water sources, and may be difficult to recognize.

The failure of the Central California Information Center to identify any Native American archaeological resources within the WISP area may be due to the lack of such sites in the area, due to relatively few archaeological surveys conducted there, or a combination of the two.

However, the most sensitive area for large village mounds has in previous research proved to be in the vicinity of the San Joaquin River and its major tributaries. No major tributaries are located within or adjacent to the WISP Study Area. Therefore, the sensitivity of the Study Area for prehistoric and historic Native American archaeological resources is relatively low. Nonetheless, it is possible that relict water courses exist in the area and that araeological sites may be found in association with those water courses.

7.2 HISTORY

7.2.1 Information Resources

Information on Turlock's history is readily available, including the following two books which provide extensive accounts of the development of the Turlock Area:

- "Streams in a Thirsty Land: A History of the Turlock Region." Helen Alma Hohenthal et al. 1972.

- "Land, Water and Power: A History of the Turlock Irrigation District." Alan M. Paterson. 1987.

The Central California Information Center, California Historical Resources Information System (California State University, Stanislaus), conducted a records search for purposes of this cultural resources study. The records search reported a few entries for Turlock, though only two buildings (the Carnegie Library and the high school auditorium) have so far been judged eligible for listing in the National Register of Historic Places. No study has focused exclusively on the WISP Study Area.

7.2.2 Exploration and Settlement

Turlock and Surrounding Region

The first Europeans to arrive in the area, in 1769, were deserters from the Spanish military. In 1813, Spanish Franciscan friars, accompanied by soldiers, entered the San Joaquin Valley to round up the deserters, convert the Native Americans to Catholicism, and search for suitable mission sites.

A rapid series of events – the American annexation of California in 1846, the discovery of gold in 1848, the start of the Gold Rush in 1849, and California statehood in 1850 – began the transformation of the Turlock area. The first settlements in what became Stanislaus County were established along the Tuolumne and Merced Rivers, and were designed to support the miners in the gold fields upriver. In the 1850's, some erstwhile miners went into ranching on the County's plains. In the 1860's, ranching in the County shifted from livestock to wheat. When word spread that the Central Pacific Railway was planning to extend its line from Modesto to Visalia, ranchers and speculators snapped up parcels within hauling distance of the proposed route. New wheat ranches typically covered a full section (640 acres), but some holdings were much larger.

The City of Turlock was founded in 1871 by John W. Mitchell. Mitchell owned 100,000 acres and employed many tenant farmers. Turlock was located on a small portion of his land, and the surrounding area had about twenty ranches.

Wheat dominated the local economy. Indeed, the entire San Joaquin Valley seemed to some observers as a vast sea of wheat. Prosperity depended on returns from the international wheat trade and generally remained high during this period. In the 1890's, wheat prices collapsed. The entire country descended into a severe economic depression. Stanislaus County was hard hit. Its population dropped five percent (5%) between 1890 and 1900. When a fire in 1893 destroyed much of Turlock's business district, merchants did not have the wherewithal to rebuild.

Even before the coming of hard times, residents of the County were looking to increase the value of local agriculture. The key was irrigation, which allowed more intense and more profitable use of the land. Turlock Irrigation District was formed in 1887. The District then began a long effort

to secure funds, repulse legal challenges, survey the area, dig canals, and build the La Grange Dam on the Tuolumne River. Water finally flowed through the system in 1900.

Wheat farmers, many of whom were deeply in debt, were ready to break up their holdings into small parcels for irrigation-dependent crops. Buyers soon arrived. The prospect of a small plot of land in sunny California drew immigrants in substantial numbers. The population of Turlock Township grew from 946 people in 1900 to 8,189 people in 1910. The size of local ranches dropped correspondingly. By 1912, fewer than ten percent (10%) contained 80 or more acres, and more than half contained 20 acres or less.

The growth of the surrounding population transformed Turlock from a stagnant village to a thriving town. Industry expanded near the railroad tracts. Attractive brick commercial buildings appeared downtown. Fashionable houses were constructed for the growing middle class. Public services broadened, including a fire department, construction of sidewalks and a sewer system, and the founding of a library.

Turlock was incorporated in 1908. By 1910, the population in the city boundary had reached 1,573 people.

WISP Study Area

Events within the WISP Study Area paralleled those of the Turlock region as a whole. In the 1850's and 1860's, the land was essentially unoccupied. The coming of the railroad led to the formation of a few large ranches in the area. Among the early residents were Henry A. Osborn and W.L. Fulkerth, each of whom operated a section-sized wheat ranch in the Study Area.

Irrigation changed the pattern of land-holding. Osborn and Fulkerth actively supported the formation of the Turlock Irrigation District. Perhaps as a result, one of the District's lateral canals between its two mail canals ran through the Osborn and Fulkerth properties. Within a few years, their ranches and a slightly larger property to the south had been sliced up into 10- to 30-acre plots. No ranch over 40 acres remained.

The Tidewater Southern Railway extended a line through the Study Area in 1916. The Tidewater Southern Railway began as a small interurban electric railroad with passenger and freight service in San Joaquin and Stanislaus Counties. The line extended from Stockton to Modesto, and from Modesto to Turlock. It began service in 1912. Western Pacific Railroad acquired the line in 1917. Currently, the line is operated by Union Pacific Railroad, connecting with its main line at Stockton. The railroad probably had little, if any, effect on the ranches near the tracks.

Land use started to change at the end of World War II. In the 1940's, small houses not related to agriculture began to go up along some of the roads in the Study Area, notably Fransil Lane and

Dianne Drive in the north, and Linwood Avenue in the south. In the 1950's and 1960's came projects that were to alter the eastern part of the area. Among them were a new sewage treatment plant which was constructed on about 100 acres along Walnut Avenue, and facilities for the International Paper Company, which took up 40 aces on West Main Street. Having an even greater impact was the construction of State Route 99, which began in the late 1960's after a decade of dispute about its appropriate location.

7.2.3 Historic Non-Native American Archaeological Resources

Most resources within the Study Area are connected to agriculture. By 1960, the number of large farm structures (houses, barns, water tanks) within the area might well have totaled 130, with the number nearly evenly split between houses and ancillary buildings. About 40, a little less than one-third, remain today. One or two might date from the late 19th century, when wheat dominated local agriculture. Most outlying agricultural buildings, however, come from the era of irrigation and small ranches. Most of the farm houses that remain have undergone alterations. Two major trends have diminished the number of farm structures in the past forty years: the abandonment of ranching, and the conversion of land from farming to industrial uses.

Of the pre-1960 resources not related to agriculture, suburban housing makes up the largest group. The Study Area contained around 40 such buildings in 1960, and has around 30 today. Those that remain are small, simple houses that were constructed after World War II. They generally do not exemplify architectures styles, and many have been altered.

7.2.4 Summary of Records Search

The Central California Information Center, California Historical Resources Information System advised that, "….an historical resource is defined as a building, structure, object, prehistoric or historic archaeological site or district possessing physical evidence of human activities (eligible for the California Register of Historical Resources or qualifying as a "unique archaeological resource" under CEQA)." Since the entire Study Area has not been subject to investigation, there may be unidentified features (45 years old or older) within Study Area that are considered cultural resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

Archaeological Resources

The Information Center's records search did not identify any previously recorded Native American archaeological resources within the WISP Study Area.

However, the Information Center noted one previously recorded historic site: a segment of the Tidewater Southern Railroad which bisects the Study Area from west to east. The Tidewater Southern Railway began as a small interurban electric railroad with passenger and freight service in San Joaquin and Stanislaus Counties. The line extended from Stockton to Modesto, and from

Modesto to Turlock. It began service in 1912. Western Pacific Railway acquired the line in 1917. Currently, the line is operation by Union Pacific Railway, connecting with its main line at Stockton.

Historic Buildings

The Information Center's records search did not identify any previously recorded historic buildings within the Study Area.

Historic Ranches

The Information Center indicated that *The History of Stanislaus County* by Branch refers to three historic ranches may be in the vicinity of the Study Area: the ranches of Daniel Casey, the Fulkerth Brothers, and Henry Osborn.

Historic Bridges

The Information Center conducted a cursory check of the California Department of Transportation (Caltrans) State and Local Bridge Survey of August 2, 2000, and found one bridge within the Study Area. The bridge is located at State Route 99 at West Main Street. It was evaluated and found not eligible for the National Register of Historic Places.

Cultural Resources Known to Have Value to Local Cultural Groups

The Information Center's records search found no cultural resources known to have value to local ethnic or other groups.

7.2.5 Summary of Site Visit

The site visit included both a historic architectural and an archaeological overview of the Study Area. From a historic architectural perspective, the Study Area includes the following types of buildings and structures that are probably 50 years old or older: the former Washington School, the International Paper Company buildings, a warehouse, residences, barns, outbuildings, Turlock Irrigation District Lateral No. 4, and the Tidewater Southern Railway.

There are about 53 principal buildings 50 years old or older. "Principal buildings" refers to houses, barns and major structures such as a warehouse, not small outbuildings. Of the principal buildings, 10 or 12 are barns. Most of the remaining buildings are residences. Some of the buildings when adjacent to one another may form small districts illustrating agricultural development in the Turlock area. At least half of the buildings show some alterations. Some of the buildings and structures are potentially eligible for the California Register of Historical Resources.

From an archaeological perspective, the Study Area includes clusters of old trees and landscaping that coincide with historic map locations of buildings. Some of these locations may be significant historic archaeological sites.

7.3 REGULATORY SETTING

7.3.1 Federal Regulations

Environmental Quality Act (CEQA), the State Historic Preservation Office (SHPO), and the National Historic Preservation Act (NHPA) of 1966Cultural resources are protected and managed in California primarily by the California.

National Historic Preservation Act (NHPA) of 1966

The NHPA includes and provides for:

- Advisory Council on Historic Preservation (ACHP) which is authorized by the Secretary of the Interior to maintain the National Register of Historic Places (NRHP);
- approval by the Secretary of the Interior of state historic preservation programs that provide for a State Historic Preservation Officer (SHPO); and
- a National Historic Preservation Fund program.

Section 106 of the NHPA requires that federal agencies take into account the impacts of their actions on properties that may be eligible for or listed on the NRHP, and provide the ACHP the opportunity to comment. All cultural sites that could be affected must be inventoried and evaluated for inclusion on the NRHP.

7.3.2 State Regulations

California Environmental Quality Act

Before discretionary projects are approved, the potential for significant impacts of the project on archaeological and historical resources must be considered under CEQA.

State archaeological and historic preservation regulations include CEQA Statutes and CEQA Guidelines (including Public Resources Code Sections 21083.2 and 21084.1, and Sections 15064.5 and 15126.4 of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of their antiquity, and provides for the sensitive treatment and disposal of those remains (California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94 et seq.).

CEQA Section 21083.2 states,

> "…the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue of nonunique archaeological resources." (Section 21083.2(a))

CEQA Section 21083.2 continues,

> "…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 types or the best available example of its type.
> 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person." (Section 21083.2(g))

CEQA Section 21084.1 states,

> "A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment…an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources…The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section."

Under the CEQA Guidelines in Section 15064.5, a "historical resource" includes: a resource listed in or eligible for the California Register of Historical Resources; or listed in a local register of historical resources; or identified in a historical resource survey and meeting requirements in Section 5024.1(g) of the Public Resources Code; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines historically significant, provided the determination is supported by substantial evidence in light of the whole record; or a resource so determined by a lead agency as defined in Public Resources Code 5020.1(1) or 5024.1.

Under CEQA Guidelines Section 15064.5(b), "(a) project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Substantial adverse change is 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)(2)).

While alteration of the setting of an archaeological site that is eligible only for its information potential may not affect the site's significant characteristics, alteration of a property's location (i.e., removing or damaging all or part of the site) may have a significant adverse effect.

CEQA Guidelines Section 15126.4(b)(3) state that, "(p)ublic agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature." The guidelines further state that preservation in place is the preferred manner of mitigating impacts, and that preservation "may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, green space, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site; and
4. Deeding the site into a permanent conservation easement."

CEQA Guidelines require that, "when data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken (Section 15126.4(b)(3)(C))." However, "data recovery shall not be required for a historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource (CEQA Guidelines, Section 15126.4(b)(3)(D))."

California Historic Register

The State Historic Preservation Office (SHPO) maintains the California State Register of Historic Resources (CRHR). Properties that are listed on the National Register of Historic Properties (NRHP) are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

Under the California Environmental Quality Act (CEQA), historical resources are recognized as a part of the environment (Public Resources Code 21001(b), 21083.2, 21084(e), 21084.1). A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant, or important in the

architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California (Public Resources Code 5020.1).

The Public Resources Code affects historical resources and created the California Register of Historical Resources and the State Office of Historical Preservation (Public Resources Code Sections 5020.4, 5024.1, and 5024.6).

The California Register is an authoritative listing and guide for state and local agencies and private groups and citizens in identifying historical resources. This listing and guide indicates which resources should be protected from substantial adverse change. The California Register includes historical resources that are listed automatically by virtue of their appearance on or eligibility for certain other lists of important resources. The Register includes historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of an evaluation by specific criteria and procedures adopted by the State Historical Resource Commission, similar to those developed by the National Park Service for the National Register of Historic Places. However, criteria of eligibility for the California Register were reworded to better reflect California history.

Any building, site, structure, object or historic district meeting one or more of the following criteria may be eligible for listing in the California Register:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Eligibility for the California Register also depends on the integrity, or the survival of characteristics of the resource that existed during its period of significance. Eligible historic resources must not only meet one of the above criteria, but also they must retain enough of their historic character or appearance to convey the reasons for their importance, or retain the potential to yield significant scientific or historical information or specific data.

Like the process of evaluating historical resources for National Register eligibility, California Register evaluations include the consideration of seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association. The evaluation of integrity must be

judged with reference to the particular criterion or criteria under which a resource may be eligible for the California Register. However, the implementing regulations specifically caution that alterations of a historic resource over time may themselves have historical, cultural or architectural significance.

Most often, historical resources eligible for the California Register will be 50 years old or older. However, the new implementing regulations stipulate that "a resource less than fifty (50) years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance."

Each register uses similar criteria, and sites eligible for CRHR listing are also potentially eligible for inclusion on the NRHP.

Private Properties

While public agencies are required to consider the effects of their actions on properties listed on the NRCP and CRHR, no comparable provisions exist for listed properties owned by private individuals, organizations, or agencies. Consequently, the preservation of such properties or the mitigation of potentially adverse impacts are not required. However, both private and public owners of listed properties may be eligible to receive financial incentives for preservation or restoration.

7.3.3 Stanislaus County General Plan

Approximately 58 percent of the Study Area is within the incorporated boundary of the City of Turlock. Therefore, approximately 42 percent of the Study Area remains under the jurisdiction of Stanislaus County. The City will annex the adjacent Stanislaus County unincorporated area as the Plan Area develops.

The Conservation/Open Space Element (Chapter 3) of the October 1994 Stanislaus County General Plan includes the following applicable Goals:

Goal Eight: Preserve areas of national, state, regional and local historical importance.

7.3.4 City of Turlock General Plan

The Open Space and Conservation Element (Section 6) of the existing 1992 General Plan includes the following Policies which are intended to protect cultural resources:

Guiding Policy 6.8-a: Protect significant archaeological resources in the Planning Area that may be identified during construction.

Implementing Policy 6.8-b: Should archaeological or human remains be discovered during construction, work shall be immediately halted within 50 meters of the find until it can be evaluated by a qualified archaeologist. If it is determined to be historically or culturally significant, appropriate mitigation measures to protect and preserve the resource shall be formulated and implemented.

7.4 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact on cultural resources if the project would:

a) cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;

b) cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;

c) directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;

d) disturb any human remains, including those interred outside of formal cemeteries.

Section 15064.5(a) of the CEQA Guidelines defines an "historical resource" as:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

2. A resource included in a local register of historical resources as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements in Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant.

   Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources...including the following:

A. is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;

B. is associated with the lives of persons important in our past;

C. 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; or

D. has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5(c)(3) of the CEQA Guidelines defines an "archaeological resource" as follows:

If an archaeological resource does not meet the definition of a "historical resource," it may meet the definition of a "unique archaeological resource" under Public Resource Code 21083.2. An archaeological resource is "unique" if it meets the following criteria:

1. is associated with an event or person of recognized significance in California or American history or recognized scientific importance in prehistory;
2. can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
3. has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
4. is at least 100 years old and possesses substantial stratigraphic integrity;
5. involves important research questions that historical research has shown can be answered only with archaeological methods.

Section 15064.5(c)(4) of the CEQA Guidelines states that if an archaeological site is neither a "unique archaeological resource" nor a "historical resource" any effect to it shall not be considered significant. The environmental document must provide documentation supporting a conclusion of "no effect" and no further consideration is necessary.

7.5 IMPACTS AND MITIGATION

POTENTIAL IMPACT C-1: **Implementation of the Westside Industrial Specific Plan (proposed project) may cause a substantial adverse change in the significance of known and unknown historical resources.**

One previously recorded historic site has been identified within the WISP Study Area: a segment of the Tidewater Southern Railway.

The Central California Information Center, California Historical Resources Information System advised that, "Since the entire Study Area has not been subject to investigation, there may be unidentified features (45 years old or older) within Study Area that are considered cultural resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

The site reconnaissance found about 53 principal buildings 50 years old or older. By principal buildings, we are referring to houses, barns and major structures such as a warehouse, not small outbuildings. Some of the buildings and structures are potentially eligible for the California Register of Historical Resources. The site reconnaissance also found clusters of old trees and landscaping that coincide with historic map locations of buildings. From an archaeological perspective, some of these locations may be significant historic archaeological sites.

Level of Significance: Potentially Significant

Mitigation Measures:

C-1.1 The one previously recorded historic site within the WISP Study Area, a segment of the Tidewater Southern Railway, shall be protected in compliance with State guidelines listed above in Section 7.3.2. Protection measures may include, but are not limited to: planning construction to avoid the resource; incorporation of the site within parks or other open space; or deeding the site into a permanent conservation easement.

C-1.2 In accordance with State Law, if any historical resources are found during construction, work is to stop, and the City of Turlock and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find. (Westside Industrial Specific Plan Resources Policy R-P-50)

C-1.3 The existing structures identified as potentially eligible for the California Register of Historic Resources shall be evaluated by a qualified archaeologist or historian prior to proposed development on that property. Proper action as recommended by the qualified archaeologist or historian shall be considered in the proposed development process. (Westside Industrial Specific Plan Resources Policy R-P-51)

C-1.4 Where historically significant structures cannot be preserved in tact, the project proponent should seek to preserve the building facades. At a minimum, the structures shall be photographed for the City's historic archives. (Westside Industrial Specific Plan Resources Policy R-P-52)

Residual Level of Significance: Less Than Significant With Mitigation

POTENTIAL IMPACT C-2: **Implementation of the Westside Industrial Specific Plan (proposed project) may cause a substantial adverse change in the significance of known and unknown archaeological or unique paleontological resources.**

Given that most of the Study Area has not been systematically surveyed, there may be undiscovered archaeological resources present. Only seven (7) cultural resource investigations are on record as having been completed within the Study Area boundaries. These seven investigations covered less than twenty-five percent (25%) of the WISP Study Area.

Level of Significance: **Potentially Significant**

Mitigation Measures:

C-2.1 If previously unrecorded archaeological resources, as defined by State Law are discovered, construction activities shall be suspended and a qualified archaeologist shall be called to evaluate the find and to recommend proper action. (Westside Industrial Specific Plan Resources Policy R-P-48)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT C-3: **Implementation of the proposed WISP project could disturb human remains, including those interred outside of formal cemeteries.**

The record search for the Study Area found no sites of concern regarding human remains. No cemeteries are known within the Study Area. No Native American archaeological sites are recorded for the Study Area. However, given that most of the Study Area has not been systematically surveyed, there may be undiscovered sites present.

Level of Significance: **Potentially Significant**

Mitigation Measures:

C-3.1 If human remains are discovered, California Health and Safety Code Section 7050.5 states that 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 coroner determines that no investigation of the cause of death is required and if the remains are of Native American origin, the coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendant. The descendant will then recommend to the landowner appropriate disposition of

the remains and any grave goods. (Westside Industrial Specific Plan Resources Policy R-P-49)

Residual Level of Significance: **Less Than Significant With Mitigation**

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8. GEOLOGY, SOILS, AND SEISMICITY

This section discusses geologic conditions in the Turlock area and the Westside Industrial Specific Plan (WISP) Study Area. Potential issues are addressed including soil erosion, expansive soils, and seismicity.

As discussed in Section 1, Summary, mineral resources are not an issue in the WISP Study Area, and will not be further analyzed.

8.1 EXISTING CONDITIONS

8.1.1 Geology of the Turlock Area

Turlock is located in northern San Joaquin Valley. The San Joaquin Valley is the southern section of the Great Central Valley of California; the Sacramento Valley is the northern section. Drainage into the San Joaquin Valley is mainly from the Sierra Nevada

The Great Central Valley is a sedimentary basin, with the Coast Range to the west and the Sierra Nevada to the east. Almost all of the sediments that fill the Great Central Valley eroded from the Sierra Nevada. The oldest of these sediments are full of fragments of volcanic rocks eroded from its early volcanoes. As erosion stripped the cover of volcanic rocks from the granites of the Sierra Nevada, their detritus of pale quartz and feldspar sand began to wash into the Great Central Valley. The sediments on the valley floor were deposited within the past one-to-two million years, some within the past few thousand years. **(1)**

Slope Instability

Generally, slopes are nearly level across the Study Area. The elevation ranges from approximately 85-95 feet above mean sea level, gently rising from the west toward the east and the Sierra Nevada.

Slope instability is not a major constraint to land use in the Study Area because of the relatively flat topography

8.1.2 Study Area Soils

The Soil Conservation Service (now referred to as the Natural Resources Conservation Service (NRCS) last published a comprehensive Soil Survey for Stanislaus County in 1964, from data collected until 1957 by the US Department of Agriculture and the University of California Agricultural Experiment Station. **(2)(3)** An update is currently in progress. According to the General Soils Map, the entirety of Turlock lies in the Hilmar Delphi soil association. This is

described as deep, wind modified; coarse-textured soils on alluvial fans of the Stanislaus and Tuolumne Rivers.

According to the Soil Survey, there are twelve (12) soil series within the Study Area. A soil series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the underlying material can differ within a series.

The Study Area soils are shown in Table 4-1 of Section 4, Agricultural Resources.

Erosion Potential

Erosion can be defined as a combination of processes in which the materials of the surface of the earth are loosened, dissolved, or worn away, and transported from one place to another by natural agents. The primary concerns regarding soil erosion are soil loss, and water quality loss due to erosion and sedimentation.

There are two (2) types of soil erosion: water erosion and wind erosion.

Water Erosion: The majority of the Study Area soils are characterized as having "slight erosion hazard", with one soil (Hanford (HdC)) exhibiting "moderate erosion hazard." Given these characteristics and the nearly level topography of the Study Area, water erosion hazard is considered low.

Wind Erosion: The Carquinez Strait, located to the northwest of the Study Area, is a sea-level gap in the coastal range. The prevailing wind through the Strait pushes marine breezes over the relatively flat terrain of the Valley. The wind erosion potential within the Study Area ranges from moderate-to-high during the spring, summer, and fall. These sea breezes diminish during the winter.

Subsidence Potential

Subsidence is the settlement of soils. Settlement can result from either desiccation (dehydration) and shrinkage, or oxidation of organic material, or both, following drainage.

The Stanislaus County NRCS (previously, Soil Conservation Service) found that subsidence is not a characteristic of the twelve soil series found within the Study Area (Table 4-1 in Section 4, Agricultural Resources).

Expansive Soils

Expansive soils are those that increase in volume when they absorb water and shrink when they dry out, commonly referred to as "shrink-swell" potential. Soil surveys generally rate shrink-

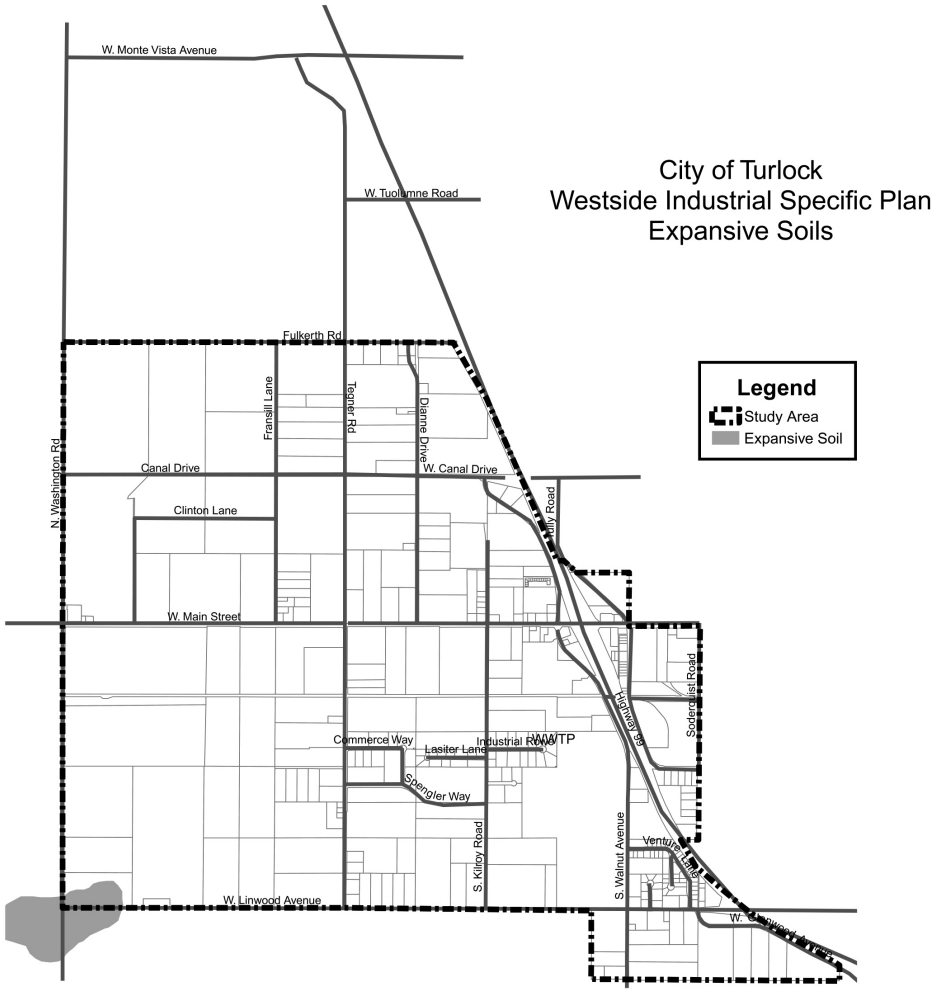
swell potential in soils on a low, medium, and high basis. If the shrink-swell potential is rated moderate to high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

As shown in Table 4-1 in Agricultural Resources, only one (1) Study Area soil has been identified as an expansive soil. The Madera (MdA) Soil Series has a high shrink-swell potential. The location of this expansive soil is shown in Figure 8-1. The remaining eleven (11) soil series' have a low shrink-swell potential. **(3)**

Figure 8-1

Location of Expansive Study Area Soil

Madera Soil Series (MdA)



Source: U.S. Department of Agriculture, Soil Conservation Service. Soil Survey for Eastern Stanislaus Area, California, 1964.

Seismicity

Seismicity can be defined simply as earthquake activity.

A seismic hazard is a risk or danger to our environment due to existence of active or potentially active earthquake faults. The term "earthquake" is used to describe both a sudden slip along a fault and the resulting ground shaking and radiated seismic energy caused by the slip, or by volcanic or magmatic activity, or other sudden stress changes in the earth.

Earthquake Hazards

Earthquake hazards include surface faulting, ground shaking, landslides, liquefaction, tectonic deformation, tsunamis, and seiches (tsunami-like waves from an inland body of water). The risk associated with earthquake hazards is generally described in terms of the probability of building damage, and the number of people that are expected to be hurt or killed if a likely earthquake on a particular fault occurs.

Earthquakes are measured by their physical effects and by the amount of energy being released. The Modified Mercalli Scale is used to measure the physical effect of earthquakes, as described in Table 8-1. This scale ranges from I to XII, with an earthquake intensity of XII resulting in nearly total damage to manmade structures and displacement of large masses of rock. The Richter Scale is used to assign a number to the calculated energy release of an earthquake, measuring the amplitude of seismic waves recorded by a seismograph. The Richter Scale is logarithmic, and an increase of one number in magnitude is the same as an increase of 32 times in energy release. A comparison of these two earthquake scales is shown in Table 8-2.

Table 8-1

Modified Mercalli Scale of 1931

Scale	Effects
I	Earthquake shaking not felt.
II	Shaking felt by those at rest.
III	Felt by most people indoors; some can estimate duration of shaking.
IV	Felt by most people indoors. Having objects swing, windows and doors rattle, wooden walls and frames creak.
V	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors close, open, or swing.
VI	Felt by everyone indoors and most people outdoors. Many now estimate not only the duration of the shaking, but also its direction and have no doubt as to its cause. Sleepers awaken. Liquids disturbed, some spilled. Small unstable objects displaced. Weak plaster and weak materials crack.
VII	Many are frightened and run outdoors. People walk unsteadily. Pictures thrown off walls, books off shelves. Dishes or glasses broken. Weak chimneys break at roofline. Plaster, loose bricks, unbraced parapets fall. Concrete irrigation ditches damaged.
VIII	Difficult to stand. Shaking noticed by auto drivers, waves on ponds. Small slides and cave-ins along sand or gravel banks. Stucco and some masonry walls fall. Chimneys, factory stacks, towers, elevated tanks twist or fall.
IX	General fright. People thrown to the ground. Steering of autos affected. Branches broken from trees. General damage to foundations and frame structures. Reservoirs seriously damaged. Underground pipes broken.
X	General panic. Conspicuous cracks in ground. Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges are destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.
XI	General panic. Large landslides. Water thrown out of banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flatland. General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.
XII	General panic. Damage nearly total, the ultimate catastrophe. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

Source: California Geologic Survey, 2002

Table 8-2

Comparison of Richter Magnitude and Modified Mercalli Intensity

Richter Magnitude		Expected Modified Mercalli Maximum Intensity (at epicenter)
2	I-II	Usually detected only by instruments
3	III	Felt indoors
4	IV-V	Felt by most people; slight damage
5	VI-VII	Felt by all; many frightened and run outdoors; damage minor to moderate
6	VII-VIII	Everybody runs outdoors' damage moderate to major
7	IX-X	Major damage
8+	X-XI	Total and major damage

Source: California Geologic Survey, 2002 after Charles F. Richter, 1958, Elementary Seismology.

Uniform Building Code (UBC) Seismic Zones

The Uniform Building Code (UBC) includes a Seismic Zone Map to determine applicable construction standards for proposed structures. Seismic zones range from 0 – 4, with Zone 0 being the least active and Zone 4 being the most active. Turlock is located in Seismic Zone 3. **(4)** All structures built in Turlock must comply with UBC requirements for this zone.

Seismic Hazard Zones

Seismic Hazard Zones are regulatory zones that encompass areas prone to liquefaction (reduction in strength and stiffness of water-saturated soil) and earthquake-induced landslides. California requires the State Geologist to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps). These maps are distributed to all affected cities, counties, and state agencies for their use in planning and monitoring construction. As of this writing, lands in Stanislaus County have not yet been mapped. **(4)**

Alquist-Priolo Act

The Alquist-Priolo Special Studies Zone Act of 1972 is directed at areas identified by the California State Geologist as having active surface fault ruptures. It is a regulatory prohibition to build across a surface fault rupture of active faults. It addresses earthquake safety in building permits and subdivision procedures by requiring project applicants to submit a registered geologist's report describing the potential for on-site surface rupture.

Turlock is not located within an Alquist-Priolo Fault-Rupture Hazard Zone.**(5)**

Faults and Ground Shaking

The nearest fault is the San Joaquin fault approximately 18 miles to the West. This fault is classified as being active in the late quaternary period some time between 700,000 years ago and the beginning of the historic period approximately 200 years ago. Due to the age of the top layers of soil, roughly 700,000 years old, it is not possible to make a more accurate determination of the last event on this fault system. **(6)**

Peak ground acceleration in the Turlock area has a low shaking potential, and under normal circumstances poses no threat to the development of the WISP project. However, as is true for the entire San Joaquin Valley, Turlock and the WISP Study Area could be impacted by earthquakes along faults in other parts of the region and elsewhere in California. The Owens Valley Lone Pine earthquake of 1872 produced ground shaking equivalent to VI on the Modified Mercalli Intensity Scale (8.0 Richter Scale) in the Turlock region**. (7)**

8.2 REGULATORY SETTING

8.2.1 Federal Regulations

U.S. Uniform Building Code (UBC)

The U.S. Uniform Building Code (UBC) provides site development and construction standards. The UBC is widely used throughout the United States, and is generally adopted on a district-by-district or state-by-state basis. The UBC has been modified for California conditions with more detailed and more stringent regulations.

8.2.2 State Regulations

California Uniform Building Code (CUBC)

The California Uniform Building Code (CUBC) is based upon the 1997 U.S.Uniform Building Code (UBC). Where no other building codes apply, Chapter 29 regulates excavation,

foundations, and retaining walls; Chapter 70 regulates grading activities, including drainage and erosion control.

California Code of Regulations (CCR), Title 24 (Building Standards)

The State of California provides minimum standards for building design through the California Building Standards Code.

California Health and Safety Code 19100 et seq. (Earthquake Protection Law)

The State of California earthquake protection law requires that buildings be designed to resist stresses produced by lateral forces caused by wind and earthquakes.

California Department of Conservation, Division of Land and Resource Protection (DLRP)

The California Division of Land and Resource Protection (DLRP) provides information to guide land use planning decisions, and well as programs that allow agricultural and open space landowners to voluntarily protect their land.

California Department of Conservation, Division of Mines and Geology

The California Division of Mines and Geology has historically focused on gathering geologic information and mapping information. However, programs have expanded often due to the passage of legislation. DMG's authority now includes obtaining statewide records of the response of rock, soil, and structures to ground motion caused by earthquakes; mandating the delineation of zones along traces of hazardous faults; ensuring that significant mineral deposits are identified and protected; providing geologic hazard review and investigation; identifying and mapping seismic hazard zones; developing public policy; and providing emergency response services.

8.2.3 City of Turlock

The Safety Element (Section 9) of the existing 1992 General Plan includes the following Policies regarding seismic hazards:

Guiding Policy 9.2-a: Continue to use building codes as the primary tool for reducing seismic risk in structures.

Implementing Policy 9.2-b: Continue to require all new buildings in the City to be built under the seismic requirements of the latest adopted Uniform Building Code.

Implementing Policy 9.2-c: Continue to explore measures to induce building owners to upgrade and retrofit structures to render them seismically safe.

8.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact the project would:

1) 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.
   - Strong seismic ground shaking.
   - Seismic-related ground failure, including liquefaction.
   - Inundation by seiche, tsunami, or mudflow.
   - Landslides.

2) Result in substantial soil erosion or the loss of topsoil.

3) 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.

4) Be located on expansive soil creating substantial risks to life or property.

5) 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 waster water.

8.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT GSS-1: **Implementation of the proposed Westside Industrial Specific Plan project may expose people and structures to rupture of a known earthquake, as delineated on the Alquist-Priolo Earthquake Fault Zoning Map.**

Level of Significance: **Less Than Significant Impact**

Turlock is not located within an Alquist-Priolo Fault-Rupture Hazard Zone. There are no known active surface fault ruptures located within or adjacent to the Study Area.

POTENTIAL IMPACT GSS-2: Implementation of the WISP project may expose people and structures to ground shaking, ground failure (including liquefaction) or landslides.

Level of Significance: Potentially Significant

Lands within Stanislaus County have not yet been mapped in the California Department of Mines and Geology Seismic Hazard Zone Mapping System, which delineate areas of possible liquefaction and landslides. However, given the nearly level terrain of the Study Area, the possibility of landslides is considered a less-than-significant impact. The Soil Survey for the area found that subsidence is not a characteristic of the soils within the Study Area. However, significant earthquakes from fault systems outside the region have affected the Turlock area in the past; therefore, the possibility of some level of regional ground shaking in the future cannot be dismissed.

Mitigation Measures:

GSS-2.1: Comply with the current Uniform Building Code (UBC) requirements for Seismic Zone 3, which stipulates building structural material and reinforcement.

GSS-2.2: Comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces caused earthquakes and wind.

Residual Level of Significance: Less Than Significant With Mitigation

Compliance with current building and safety codes will reduce the potential impact to less-than-significant..

POTENTIAL IMPACT GSS-3: Implementation of the WISP project may result in substantial soil erosion of loss of topsoil.

Given the nearly level topography of the Study Area, water erosion hazard is considered low.

The wind erosion potential within the Study Area ranges from moderate-to-high during the Spring, Summer, and Fall. These sea breezes diminish during the Winter.

Level of Significance: Potentially Significant

Mitigation Measures:

GSS-3.1: Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow. (Westside Industrial Specific Plan Resources Policy R-P-3)

GSS-3.2: Comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control. (Westside Industrial Specific Plan Resources Policy R-P-5)

GSS-3.3: Comply with all erosion control measures listed in the Air Quality, and Hydrology and Water Quality sections of this document. (Westside Industrial Specific Plan Resources Policy R-P-6)

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented.

POTENTIAL IMPACT GSS-4: Implementation of the General Plan 2023 may expose people and structures to the hazards of expansive soils.

Level of Significance: Potentially Significant

One (1) of the twelve Study Area soils (Madera (MdA) has been identified as an expansive soil. The remaining eleven soils have low shrink-swell potentials. (See Table 4-1, Study Area Soils in the Agricultural Resources Section)

Mitigation Measures:

GSS-4.1: Comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specified soils types. (Westside Industrial Specific Plan Resources Policy R-P-4)

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measure is implemented. Compliance with UBC construction requirements will implement state-of-the-art mitigation relating to site-specific soil types.

POTENTIAL IMPACT GSS-5: **Septic tanks or alternative waste water systems could be placed in soils incapable of supporting their use.**

Level of Significance: **No Impact**

All proposed development within the WISP Study Area will be served by the City's municipal sewer system. No septic tanks or alternative waste water systems will be used.

References

(1) Alt, David and Donald W. Hyndman. Roadside Geology of Northern and Central California. Mountain Press Publishing Company. Missoula, Montana. August 2001, Second Printing. Extracted from Pg. 243-254.

(2) U.S. Department of Agriculture, Soil Conservation Service. Soil Survey for Eastern Stanislaus Area, California, 1964.

(3) Telephone Conversation with Michael McElhiney, Stanislaus County NRCS, March 2004.

(4) Telephone Conversation with Stanislaus County Building Inspection Department, January 2004.

(5) Telephone Conversation with Dale Stickney, Information Geologist, California Department of Conservation, Division of Mines and Geology, January 2004.

(6) Fault Activity Map of California. Department of Conservation, Division of Mines and Geology. 1994.

(7) California Department of Conservation, California Geological Survey, 2002, as compiled from T. Toppozada, 2000.

9. HAZARDOUS MATERIALS

Hazardous materials are substances that may pose a potential hazard to human health or the environment when handled improperly.

This Section addresses hazardous materials and the Westside Industrial Specific Plan (WISP). Given that the proposed WISP project proposes only non-residential land uses, hazardous wastes from non-residential uses are addressed in this EIR. Hazardous waste sites that appear on Stanislaus County and California State hazardous materials database lists for the Study Area are addressed. The transportation of hazardous materials, particularly over State Route 99 (SR 99), is also discussed.

9.1 EXISTING CONDITIONS

9.1.1 Non-Household Hazardous Waste

Hazardous waste can be generated by small businesses, industry, and government facilities. Small businesses and government facilities may be classified as Small Quantity Generators (SQG's) or Conditionally Exempt Small Quantity Generators (CESQG's). Industries are typically classified as SQG's or Large Quantity Generators (LQG's). These classifications are discussed below in Subsection 9.2, Regulatory Setting.

Stanislaus County Hazardous Waste Management Plan (CHWMP)

The Stanislaus County Hazardous Waste Management Plan (CHWMP) was adopted by the City of Turlock in 1991.

The CHWMP identifies industrially zoned sites potentially suitable of locating hazardous waste management facilities. In Turlock, an area in the southwest quadrant of the City is identified for this purpose.

There are no hazardous waste facilities currently operating or planned within the WISP Study Area.

9.1.2 Hazardous Material Sites in WISP Study Area

Underground Tank Site Mitigation Database

The Stanislaus County Department of Environmental Resources monitors the possible groundwater and soil contamination from underground tanks. There are two sites within the Plan

Area which are currently being monitored by the County under its Local Oversight Program **(1)**. Table 9-1 lists these two sites and indicates their current status.

Table 9-1
Underground Tank Site Mitigation Database List

Site Name	Address	Status
Fiskes Hardware	4631 W. Main	WP 8/5/03 (Aquifer)
ARCO 4589	2015 W. Main	IEL 5/15/03 (Soil)

STATUS LEGEND

WP: Work Plan approved on 8/5/03 for remediation of groundwater under the Local Oversight Program.

IEL: Initial Enforcement Letter sent on 5/15/03 for remediation of soil under the Local Oversight Program. Work Plan is required as a result of IEL.

Source: Stanislaus County Department of Environmental Resources, Hazardous Materials Division. January 2004.

See Figure 9-1 for the approximate locations of these monitored underground tanks within the Study Area.

9.1.3 Solid Waste Management

The California Integrated Waste Management Board (CIWMB) coordinates the database records of waste management facilities in Turlock with the Stanislaus County Department of Environmental Resources. The IWMB lists three (3) waste management facilities within the Study Area **(2).** Facility 2 (City of Turlock Waster Quality Control Facility) and Facility 3 (Turlock Disposal Site) are located on the same site within the Plan Area. Following is a brief description and a summary of the regulatory status of those listed facilities:

1. Turlock Transfer (I.D. SWIS #50-AA-0004)

   1100 South Walnut

Solid Waste Facility - Large Volume Transfer/Processing

Regulatory Status: Permit Issued 2/8/99

2. City of Turlock Water Quality Control Facility (I.D. SWIS #50-AA-0021)

   901 South Walnut

   Solid Waste Operation - Composting Operation (Research) - Green Materials & Sludge (BioSolids)

   Regulatory Status: Exempt

3. Turlock Disposal Site (I.D. SWIS #50-CR-0006)

   901 South Walnut

   Solid Waste Disposal Site

   Regulatory Status: Pre-Regulations

See Figure 9-1 for the approximate locations of these solid waste facilities within the Study Area.

Stanislaus County Department of Environmental Resources (Hazardous Materials Division), the State Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC) are now in the process of developing protocols for urban development in the vicinity of these waste management facilities. Currently, the Health and Safety Code requires a DTSC Preliminary Environmental Assessment (PEA) for development within 1,000 feet of a solid waste facility.

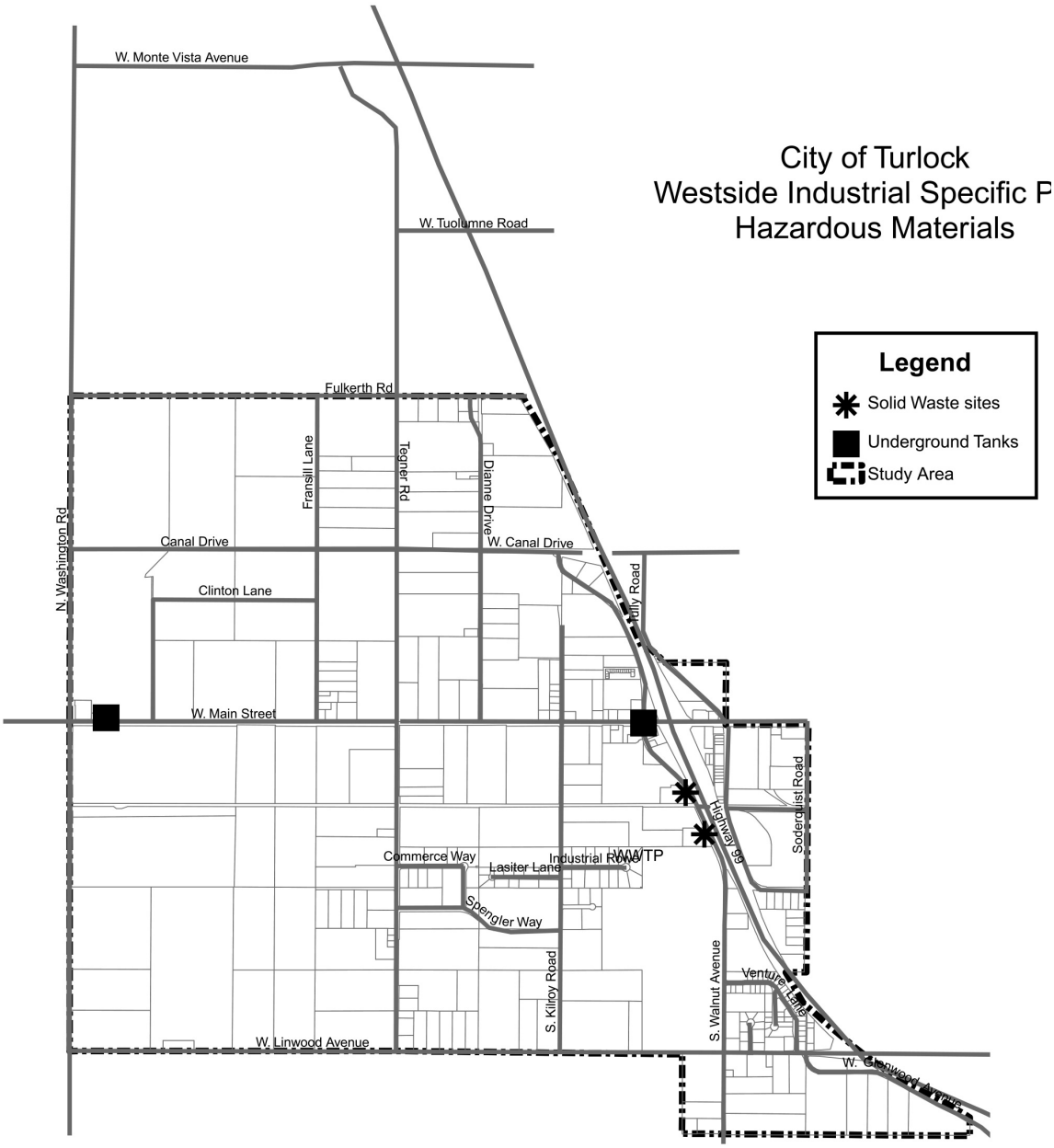
9.1.4 Hazardous Materials Transportation

Roadways

Hazardous materials are routinely transported over State and federal highways, as well as local roads. Trucks travel along SR 99 through the eastern edge of the Study Area, and to and from Interstate 5 (outside the Study Area).

Figure 9-1
Approximate Locations

Monitored Underground Tanks and Solid Waste Facilities



Source: *Stanislaus County Department of Environmental Resources, Hazardous Materials Division. January 2004.*

Types of hazardous cargoes regularly transported by freeway or rail include flammable liquids, corrosive materials, compressed and/or poisonous gases, explosives, flammable solids, irritating materials and radioactive materials. The transportation of such cargo creates obvious hazards for existing and proposed land uses adjacent to those transportation routes.

Hazardous materials spills on State and federal highways are the responsibility of the California Department of Transportation (Caltrans) and the California Highway Patrol (CHP). These agencies provide on-scene management of the spill site and coordinate with the California Environmental Health Department, California Office of Emergency Services, and the Turlock Fire Department.

Union Pacific Railroad Spur

The Union Pacific Railroad operates an east-west spur through the WISP Study Area. Potential issues related to the railroad spur include risks to human health and safety associated with a hazardous materials-related emergency.

The Union Pacific Railroad has primary responsibility for hazardous materials spills on its premises. Union Pacific's emergency response plan contains operations guidelines, training requirements, and response procedures to be implemented in the event of a derailment, leak, or off-railroad incident involving hazardous materials.

9.1.5 City of Turlock Fire Department (TFD)

The City of Turlock operates a full-service Fire Department (TFD). The TFD provides support for a variety of public agencies at the local, state, and federal levels. Support and services include hazardous materials response.

9.2 REGULATORY SETTING

The regulation of hazardous materials occurs at the federal, State, and local levels. These regulatory agencies are described below.

9.2.1 Federal Regulation

U.S. Environmental Protection Agency (EPA)

EPA's mission is to protect human health and to safeguard the natural environment, related to air, water, and land. EPA works closely with other federal agencies, state and local governments, and Indian tribes to develop and enforce regulations under existing environmental laws. EPA is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes responsibility for issuing permits, and monitoring and

enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality. The Agency also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.

EPA Region 9 office has jurisdiction over Turlock as part of the southwestern United States (Arizona, California, Nevada, and Hawaii).

EPA Programs related to Hazardous Materials include:

- Community Right-to-Know Information
- Pesticide Management
- Toxic Release Inventory
- Brownfields (CalSites Database)
- Cleanup Technologies
- Compliance Assistance
- Emergency Response
- Hazardous Waste
- Oil Spills

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) as updated in 1984, deals with both hazardous and non-hazardous solid waste. The EPA (or the states) must issue a permit to facilities before they can treat, store, and dispose of hazardous wastes.

According to the RCRA, generators are separated into three groups:

1. Large Quantity Generators (LQG's): Those that generate more than 2,200 pounds of hazardous waste per calendar month. Examples include pharmaceutical companies and chemical manufacturers.

2. Small Quantity Generators (SQG's): Those that generate between 220 pounds and 2,200 pounds of hazardous waste per calendar month. Examples include laboratories, printers, and dry cleaners.

3. Conditionally Exempt Small Quantity Generators (CESQG's): Those that generate less than 220 pounds of hazardous waste per calendar month. Examples include 1-hour photo labs and dental offices.

U.S. Department of Transportation (DOT)

The Hazardous Materials Transportation Act of 1974, as amended, is the basic statute regulating hazardous materials transportation in the U.S. This law gives USDOT and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

State agencies are authorized to designate highways for the transport of hazardous materials. Where highways have not been designated, hazardous materials must be transported on routes that do not go through or near heavily populated areas.

Office of Emergency Services (OES)

OES administers the state's Emergency Plan for coordinating emergency services provided by federal, state, local government agencies, and private agencies, including California Environmental Protection Agency, California Highway Patrol, California Department of Fish and Game, and various county agencies and fire protection districts. Response to hazardous materials incidents is one part of this Plan.

9.2.2 State Regulation

CEQA and the Cortese List

The Cortese List (Hazardous Waste and Substances Site List) is a planning document used by the state, local agencies, and developers to comply with CEQA requirements to consider Government Code Section 5962.5 in evaluating proposed development projects. Section 65962.5 states,

> "The list should contain all hazardous waste facilities subject to corrective action , all hazardous waste property or border zone property designations, all information received on hazardous waste disposals on public land, all hazardous substance release sites listed pursuance to Government Code Section 25356, and all sites that were included in the former Abandonment Site Assessment Program."

California Environmental Protection Agency (Cal EPA)

Government Code Section 65962.5 requires the California Environmental Protection Agency to develop a Cortese List at least annually. The Department of Toxic Substances Control is responsible for a portion of the information on the list, and other local and state government agencies are required to provide additional information

Cal EPA operates the Air Resources Board, the Department of Pesticide Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. The function of each of these six (6) offices is discussed below:

Air Resources Board (ARB): To promote and protect public health, welfare and ecological resources through the effective and efficient reduction of air pollutants in recognition and consideration of the effects on the economy of the state.

Department of Pesticide Regulation (DPR): Regulates all aspects of pesticide sales and use to protect the public health and the environment for the purpose of evaluating and mitigating impacts of pesticide use, maintaining the safety of the pesticide workplace, ensuring product effectiveness, and encouraging the development and use of reduced risk pest control practices.

Department of Toxic Substances Control (DTSC): The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention. DTSC protects residents from exposures to hazardous wastes. DTSC operates programs to:

- -Deal with the aftermath of improper hazardous waste management by overseeing site cleanups.
- -Prevent releases of hazardous waste by ensuring that those who generate, handle, transport, store and dispose of wastes do so properly.
- -Take enforcement actions against those who fail to manage hazardous wastes appropriately.
- -Explore and promote means of preventing pollution, and encourage reuse and recycling.
- -Evaluate soil, water and air samples taken at sites, and develop new analytical methods.

Integrated Waste Management Board (IWMB): To protect the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal. The IWMB is responsible for managing California's solid waste stream. The Board is helping California divert its waste from landfills by:

- -Developing waste reduction programs.
- -Providing public education and outreach.
- -Assisting local governments and businesses.
- -Fostering market development for recyclable materials.
- -Encouraging used oil recycling.

- -Regulating waste management facilities.
- -Cleaning up abandoned and illegal dump sites.

Office of Environmental Health Hazard Assessment (OEHHA): OEHHA is responsible for developing and providing risk managers in state and local government agencies with toxicological and medical information relevant to decisions involving public health. OEHHA also works with Federal agencies, the scientific community, industry and the general public on issues of environmental as well as public health. Specific examples of OEHHA responsibilities that directly relate to Turlock include:

- -Developing health-protective exposure standards for air, water, and land to recommend to regulatory agencies, including ambient air quality standards for the Air Resources Board and drinking water chemical contaminant standards for the Department of Health Services.
- -Assessing health risks to the public from air pollution, pesticide and other chemical contamination of food, seafood, drinking water, and consumer products.
- -Providing guidance to local health departments, environmental departments, and other agencies with specific public health problems, including appropriate actions to take in emergencies that may involve chemicals.

State Water Resources Control Board (SWRCB): To preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. The SRWQCB maintains the Leaking Underground Storage Tank Information System (LUTIS) Database, which contains information on registered leaking underground storage tank (LUST's) in the state.

California Occupational Safety and Health Agency (CalOSHA)

CalOSHA sets and enforces standards that insure safe and healthy working conditions for California's workers. The Division of Occupational Safety & Health is charged with the jurisdiction and supervision over workplaces in California that are not under Federal jurisdiction. CalOSHA regulates issues involving unsafe workplace conditions, worker exposure to chemicals, illness due to workplace exposure, or improper training.

State Regulatory Programs Division (SRPD)

The State Regulatory Programs Division (SRPD) oversees the technical implementation of the state's Unified Program; a consolidation of six environmental programs at the local level, and conducts reviews of Unified Program agencies to ensure their programs are consistent statewide, conform to standards, and deliver quality environmental protection at the local level. SRPD also carries out the state's hazardous waste recycling and resource recovery program designed to

facilitate recycling and reuse of hazardous waste. SRPD conducts a corrective action oversight program that assures any releases of hazardous constituents at generator facilities that conduct onsite treatment of hazardous waste are safely and effectively remediated, and oversees the hazardous waste generator and onsite waste treatment surveillance and enforcement program carried out by local Unified Programs.

California Department of Transportation (Caltrans) and California Highway Patrol

The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time, and prohibits the transportation of hazardous materials through residential neighborhoods.

In California, the California Highway Patrol (CHP) is authorized to designate and enforce route restrictions for the transportation of hazardous materials.

To operate in California, all hazardous waste transporters must be registered with the Department of Toxic Substances Control (DTSC). Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations; the California State Fire Marshal Regulations; and the United States Department of Transportation Regulations. In addition, hazardous waste transporters must comply with Division 20, Chapter 6.5, Article 6 and 13 of the California Health and Safety Code and the Title 22, Division 4.5, Chapter 13, of the California Code of Regulations which are administered by DTSC.

Central Valley Regional Water Quality Control Board (RWQCB)

There are nine Regional Water Quality Control Boards (RWQCBs) throughout the State. The Central Valley RWQCB has jurisdiction over the City of Turlock, with offices in Stockton.

Individual RWQCB's function as the lead agencies responsible for identifying, monitoring, and cleaning-up leaking underground storage tanks. Storage of hazardous materials in underground storage tanks is regulated by the State Water Resources Control Board (SWRCB), which oversees the nine RWQCB's.

9.2.3 Local Government Regulation

Certified Unified Program Agencies (CUPA)

Senate Bill 1082 (1993) required the establishment of a unified hazardous waste and hazardous materials management program. The result was Cal EPA's United Program, which consolidates the actions of DTSC, the SWRCB, the RWQCB's, OES, and the State Fire Marshall. DTSC oversees the implementation of the hazardous waste generator and onsite treatment program, one of six environmental programs at the local level, through Certified Unified Program Agencies (CUPAs). CUPAs have authority to enforce regulations, conduct inspections, administer

penalties, and hold hearings. Stanislaus County implements the CUPA that has enforcement authority over the City of Turlock.

San Joaquin Valley Air Pollution Control District (SJVAPCD)

San Joaquin Valley Air Pollution Control District has jurisdiction over the City of Turlock and deals with pollutants that get into the air from stationary sources (including fumes, dust and smoke, some asbestos). The SJVAPCD responds to complaints about smells and answers questions about air quality management permits. The APCD and air quality are addressed in detail in Section 5, Air Quality, of this EIR.

Stanislaus County Department of Environmental Resources

Stanislaus County Department of Environmental Resources monitors the possible groundwater and soil contamination from underground tanks. Its funding mechanism is a billing contract with the State Water Quality Control Board. Environmental Resources clean-up enforcement falls under Title 23, California Code of Regulations. Case workers monitor site specific development, and must be contacted prior to development.

Applicants and/or occupants handling hazardous materials or generating hazardous wastes must notify the Department of Environmental Resources relative to: (California Health and Safety Code, Division 20)

- Permits for the underground storage of hazardous substances at a new or the modification of existing tank facilities.
- Requirements for registering as a handler of hazardous materials in the County.
- Submittal of hazardous materials Business Plans by handlers of materials in excess of 55 gallons or 500 pounds of a hazardous material or of 200 cubic feet of compressed gas.
- The handling of acutely hazardous materials may require the preparation of a Risk Management Prevention Program, which must be implemented prior to operation of the facility. The list of acutely hazardous materials can be found in SARA, Title III, Section 302.
- Generators of hazardous waste must notify the Department of Environmental Resources relative to the: (1) quantities of waste generated; (2) plans for reducing wastes generated; and (3) proposed waste disposal practices.
- Permits for the treatment of hazardous waste on-site will be required from the hazardous materials division.

- Medical waste generators must complete and submit a questionnaire to the Department of Environmental Resources for determination if they are regulated under the Medical Waste Management Act. **(3)**

9.2.4 City of Turlock

The Safety Element (Section 9) of the 1992 General Plan includes the following Policies related to hazardous materials:

Guiding Policy 9.5-a: Cooperate and coordinate actions with other local and State agencies and private organizations to minimize risks associated with **hazardous cargoes**, agricultural spraying, and electromagnetic fields.

Guiding Policy 9.5-b: Coordinate land use policies with concerns about potential hazards.

Implementing Policy 9.5-c: In close cooperation with the railroads, evaluate the safety characteristics of existing at-grade railroad crossings, and promote improvements to the extent feasible and as necessary to reduce potential for mishaps involving hazardous cargo.

9.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, the proposed project would have a significant adverse impact on the environment if the project would:

1. create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;
2. create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3. emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school;
4. 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 create a significant hazard to the public or the environment;
5. impair implementation of or physically interfere with an adopted emergency plan or emergency evaluation plan.

9.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT HM-1: The proposed Westside Industrial Specific Plan (WISP) could expose existing and future residents to

increased risk resulting from the routine use, production, transport, or disposal of hazardous materials.

Industrial development is expected to involve storage and use of hazardous materials. Commercial land uses may use hazardous materials. Hazardous wastes may be generated by some businesses as well. The use and storage of hazardous materials will involve the transport of such materials.

Level of Significance: **Potentially Significant**

Mitigation Measures:

HM-1.1 The City will evaluate the potential detrimental effect, if any, from locating a hazardous waste management site in the Plan Area, and if appropriate, will seek amendment of the Stanislaus County Hazardous Waste Management Plan (CHWMP) to eliminate for any future consideration the southwest quadrant of the City as a candidate location of a hazardous waste management facility. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-49)

HM-1.2 All new development is required to meet the fire protection standards established by the City. Typical standards include, but are not limited to:

- Sprinklers in buildings 5,000 square feet and larger;
- On-site hydrants;
- Adequate emergency access to buildings;
- **Hazardous materials plans**.

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-62)

HM-1.3 All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

HM-1.4 All new development shall comply with federal, State, San Joaquin Valley APCD, County, and City policies regulating the production, use, transport and/or disposal of hazardous materials, including complying with all permit requirements.

HM-1.5 Require land uses that produce, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities. The

list shall be maintained through the Turlock Fire Department and updated through periodic review.

"Significant quantities" has been defined by the Stanislaus County Department of Environmental Resources as hazardous materials in excess of 55 gallons or 500 pounds of a hazardous material, or of 200 cubic feet of compressed gas.

HM-1.6 City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.

HM-1.7 The City shall maintain an awareness of hazardous materials throughout the City.

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented. The requirement for industrial and other land uses producing, storing, using, and transporting hazardous materials to identify such activities annually, will reduce the risks of increased exposure.

POTENTIAL IMPACT HM-2: The existing and future residents of the City of Turlock could be exposed to increased risk of accidental release of hazardous materials.

With the increased use, storage and transport of hazardous materials expected from the development of industrial, commercial, and business land uses, the risk of accidental release of those materials is increased

Level of Significance: Potentially Significant

Mitigation Measures:

HM-2.1 Segregate and provide buffers between land uses that typically generate hazardous or obnoxious fumes and residential or other sensitive land uses. (Westside Industrial Specific Plan Resources Policy R-P-33)

HM-2.2 Cooperate fully with Union Pacific Railroad and other public agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

HM-2.3 Cooperate with Stanislaus County Department of Environmental Resources in identifying hazardous material users and in developing a Hazardous Materials Management Plan.

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented. Regulation and increased awareness of proper use and disposal of hazardous materials will reduce the risk of accidental release. Cooperation with the Union Pacific Railroad and the California Highway Patrol will help reduce the level of release during any emergency.

POTENTIAL IMPACT HM-3: **Use and possible emission of hazardous materials within one-quarter mile of an existing or proposed school could occur.**

There are no existing or planned schools located within one-quarter mile of the WISP Study Area.

Level of Significance: **Less Than Significant**

POTENTIAL IMPACT HM-4: **Placing development on a site which included on the Cortese list of hazardous materials would create a significant impact.**

Level of Significance: **No Impact**

The City of Turlock does not contain sites that are identified on the Cortese List.

POTENTIAL IMPACT HM-5: **The proposed WISP project could interfere with emergency response or evacuation procedures.**

Level of Significance: **Potentially Significant**

The development proposed in the WISP Study Area would not inherently create conditions that would interfere with emergency response or evacuation procedures. Adequate emergency access and evacuation is a function of the design of the local circulation system. New roads constructed in the Study Area would provide additional access and evacuation routes and would therefore provide a benefit.

Mitigation Measures:

HM-5.1 All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

HM-5.2 Cooperate fully with Union Pacific Railroad and other public agencies, such as the California Highway Patrol, in the event of a hazardous material emergency.

HM-5.3 The City shall review County and State emergency response procedures that must be coordinated with City procedures.

Residual Level of Significance: Less Than Significant With Mitigation

The above actions will facilitate emergency procedures for hazardous materials incidents, as well as other emergency situations. Seismic, flooding, and structural fire emergencies are discussed in Section 8, Section 10, and Section 14, respectively.

References

(1) Stanislaus County Department of Environmental Resources, Hazardous Waste Division. January 2004.

(2) California Integrated Waste Management Board. www.CIWMB.ca.gov. December 2003.

(3) Stanislaus County Environmental Review Committee, Written Response to WISP Notice of Preparation (NOP). November 19, 2003.

10. HYDROLOGY AND WATER QUALITY

This section addresses the proposed Westside Industrial Specific Plan's (WISP) possible impact on the quality of groundwater and surface water, as well as the depletion of groundwater

10.1 EXISTING CONDITIONS

10.1.1 Drainage

Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt from the Sierra Nevada mountain range to the east contributes to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by increasing impervious surfaces, which do not allow for infiltration of water into the soil, resulting in increased velocities and volumes of runoff.

Turlock and the WISP Study Area are located within the San Joaquin River drainage basin. No natural rivers, streams or other natural waterways exist within the Study Area. WISP is located on a plain 85-95 feet above mean sea level, approximately eight miles east of the San Joaquin River. This plain is situated between two of the San Joaquin River tributaries: the Tuolumne River approximately 10 miles to the north and the Merced River, approximately six miles to the south.

Precipitation averages approximately twelve inches per year.

The current storm drainage in Turlock is handled by a system of storm sewers, pump stations, detention basins, and open canals, which ultimately discharge the storm water into the San Joaquin River. WISP would be connected to the existing system, with the addition of new pump stations and detention basins. The WISP project provides for and anticipates that a substantial amount of storm water will be managed and detained on the larger development sites within the Study Area. The allowable outflow would be limited to the pre-development flow.

The City and WISP storm water drainage system is further discussed in Public Facilities and Services (Section 14).

10.1.2 FEMA Flood Zones (100-Year Floodplains)

The boundaries of a 100-year floodplain are delineated by the Federal Emergency Management Agency (FEMA) on the basis of hydrology, topography and modeling during predicted rainstorms. Areas designated as flood zones are shown on published Flood Insurance Rate Maps (FIRM). The National Flood Insurance Program (NFIP) requires owners of property within designated flood zones to purchase flood insurance.

The City of Turlock and the WISP Study Area are not located within a FEMA flood zone.

10.1.3 Dam Failure Inundation

According to U.S. Army Corps of Engineers standards, Turlock and the WISP Study Area fall within the dam failure inundation area for the New Don Pedro Dam, located along the Tuolumne River approximately 25 miles to the northeast of the Turlock. Dam failure inundation areas are those that would be flooded if a dam were to fail completely within a one-hour period.

Such a disaster is highly unlikely, and would occur only under unique circumstances. The New Don Pedro Dam, one-half mile long and 40 feet wide, would have to completely collapse, allowing two million acre-feet of water in the Don Pedro Reservoir to pass through in one hour.

The Stanislaus County General Plan does not portray any part of Turlock or the Study Area to be within the Don Pedro Reservoir Dam inundation area.

10.1.4 Surface Water Quality

The quality, quantity and availability of water are vital to human activities, and vegetation and wildlife in the Study Area. There are land uses and activities proposed for the WISP Study Area which must be considered in protecting its water quality. These include the City of Turlock Regional Water Quality Facility, construction activities, urban runoff, and hazardous materials production, use, storage, transport, and disposal, as discussed in Section 9 of this EIR, Hazardous Materials.

Turlock Regional Water Quality Facility

The City of Turlock Regional Water Quality Facility is located on South Walnut Road in the south-central portion of the WISP Study Area. There are existing sewer settling ponds on the facility grounds. There are existing sewer lines within the Study Area, with additional lines and a new pump station planned to serve the proposed additional development. The possibility of surface and groundwater contamination from the wastewater treatment facility is reduced or eliminated through federal and State regulatory agencies, as discussed below in Section 10.2.

Construction Activities

Construction grading can impact water quality because it exposes bare soil. Rainfall on bare soil can cause erosion and sedimentation into nearby water bodies. Unstabilized soil can be washed or wind-blown into nearby surface water. Construction activities can also result in petroleum products and other pollutants from construction equipment, entering nearby drainages. The WISP Study Area includes detention basins, drainage ditches, and open irrigation canals and ditches.

Urban Runoff

Urban runoff is storm water and irrigation water that flows over urban surfaces (especially impervious surfaces such as roads, parking lots, driveways, sidewalks, gutters), often making its way into surface water and drainages. Urban runoff includes chemicals common to both non-residential and residential land uses (including pesticides, herbicides, and paints), as well as petroleum products from automobiles and landscaping equipment. Other sources of pollution include land uses involving transportation, fueling, and maintenance activities.

Hazardous Materials

The WISP project proposes land uses which may involve the production, use, storage, transport, and/or disposal of some hazardous materials. Leakage and accidental release of such materials can reach surface water within and adjacent to the Study Area, including irrigation ditches and canals, drainage ditches, and detention basins.

10.1.5 Groundwater Quality

Most groundwater recharge comes from surface agricultural irrigation. This water, along with contaminants, percolates over time from the surface to the water table below. Nitrate is the most commonly occurring contaminant in the area. It has been introduced into groundwater from fertilizers, septic systems, and possibly livestock.

The decline in water levels and the need for uncontaminated water has prompted Valley domestic water suppliers to draw water from deeper groundwater levels.

Water quality in the Turlock Irrigation District is quite variable. Of all the areas supplied by the District, the incidence of contamination is the least in the wells of Turlock. The City's operating wells produce groundwaters that meet or exceed the State Department of Health Services recommended drinking water quality standards.

Water resources are further discussed in Section 14, Public Facilities and Services.

10.1.6 Groundwater Recharge

The Central Valley's inhabitants and agricultural productivity is dependent upon the availability of water for domestic use and irrigation. The variability in available surface water in the Valley places added importance on groundwater as a source of water. Groundwater remains the current sole source of irrigation and domestic water in the Turlock and the Study Area.

The post-Eocene continental rocks and deposits contain most of the fresh groundwater, which flow under virtually the entire Valley. Area water levels are buoyed by the proximity of the Delta channels to the west. Groundwater recharge comes from irrigation of agricultural lands

within the region and infiltration from streams flowing west out of the Sierra Nevada. This recharge occurs in areas with permeable materials which allow the infiltration of water along streams, alluvial fans and foothill areas. However, since there are no streams or alluvial fan conditions, there are no notable groundwater recharge areas identified within the Study Area.

Increasing water demand and the absence of alternative supplies have resulted in declining groundwater levels in recent years throughout the Valley.

Water conservation for Turlock and the WISP Study Area is discussed further in Section 14, Public Facilities and Services.

10.2 REGULATORY SETTING

The following is a summary of the regulatory context under which surface water and groundwater resources are managed at the federal, State, and local level.

10.2.1 Federal Regulation

Water Quality: Federal Clean Water Act

The Federal Clean Water Act of establishes the basic structure for regulating discharges of pollutants into surface waters of the United States, and sets water quality standards for all contaminants in surface waters. Water quality standards are intended to protect public health, enhance the quality of water, and serve the purposes of the Clean Water Act. The Act defines water quality standards as federal or state provisions or laws that, (1) designate the beneficial uses of water, and (2) establish water quality criteria to protect those designated uses.

Safe Drinking Water Act

The Safe Drinking Water Act was amended in 1986 and 1996, and requires protection of drinking water and its sources (i.e., rivers, lakes, reservoirs, springs, and groundwater wells). The Act authorizes the U.S. Environmental Protection Agency (EPA) to set national standards for drinking water to protect against pollutants. The EPA, states, and local agencies work together to enforce these standards.

Water Quality: National Pollution Discharge Elimination System (NPDES)

The Federal Clean Water Act was amended in 1972 to regulate discharge of pollutants from any point source into the waters of the United States. NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, stormwater associated with industrial activity, runoff from construction sites disturbing more than one (1) acre of soil, mining operations, and animal feedlots and agricultural facilities above certain thresholds.

Stormwater discharges from both large and small construction sites are now subject to NPDES requirements. Large construction sites are those that involve five or more acres of soil disturbance. Small construction sites are those that involve from one to five acres of soil disturbance.

The NPDES stormwater permitting program is administered by the State Regional Water Quality Control Boards on behalf of the U.S. Environmental Protection Agency (EPA).

10.2.2 State Regulation

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this Act, the state must adopt water quality policies, plans and objectives that protect the state's waters. The Act sets forth the obligations of the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB) pertaining to the adoption of Basin Plans and establishment of water quality objectives. Unlike the Federal Clean Water Act, which regulates only surface water, the Porter-Cologne Act regulates both surface and ground water.

State Water Resources Control Board (SWRCB)

The State Water Resources Control Board (SWRCB) administers state water rights and water quality functions. The SWRCB and its nine (9) Regional Water Quality Control Boards (RWQCB) administer water rights and enforce pollution control standards. The SWRCB and RWQCB's are responsible for ensuring implementation and compliance with the provisions of the Federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act. The project is situated within the jurisdiction of the Central Valley Region of the RWQCB. The Central Valley RWQCB has the authority to implement water quality standards through the issuance of permits for discharges to waters within its jurisdiction.

General Construction Activity Stormwater Permit

General Stormwater Discharge Permits are required by the state for stormwater discharges associated with construction activities involving disturbance of five (5) acres or more. Construction on sites of fewer than five acres requires a permit if part of a larger development or land sale. Landowners are responsible for obtaining and complying with the permits, but may delegate specific duties to developers and contractors by mutual consent.

Regulations under Section 402(p) of the Federal Clean Water Act are now in effect. They involve control of pollution in stormwater discharges. In California, the Section 402(p) NPDES Permit applicants are required to prepare and retain at the construction site a Stormwater Pollution Prevention Plan (SWPPP), and implement Best Management Practices (BMP) to

reduce construction effects on receiving water quality by implementing erosion control measures. The SWPPP must describe the site, erosion and sediment controls, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Dischargers are also required to inspect construction sites before and after storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary.

Central Valley RWQCB Basin Plan

The Water Quality Control Plan for the Sacramento and San Joaquin River Basins provides water quality objectives and standards for waters of these two river basins. The Basin Plan contains specific water quality objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, total dissolved solids (TDS), temperature, turbidity, and trace elements. It also includes objectives for groundwater quality that pertain to bacteria, chemical constituents, radioactivity, taste, color, and toxicity.

California and Section 303(d) of the Clean Water Act

Section 303(d) of the Clean Water Act requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. TMDL is the amount of loading that the water body can receive and still meet water quality standards.

The most recently approved (2002) Clean Water Act Section 303(d) list for California identifies the various waterways throughout the state that are water quality impaired for a number of constituents. The SWRCB is responsible for compiling the list. The San Joaquin River is on that list. **(1)**

10.2.3 City of Turlock

The Open Space and Conservation Element (Section 6) of the existing 1992 General Plan includes the following Policies relating to hydrology and water quality:

Guiding Policy 6.2-a: Continue efforts to safeguard the quality and availability of Turlock's water supply.

Guiding Policy 6.2-b: Undertake steps to minimize the depletion of groundwater reserves.

Implementing Policy 6.2-c: Continue to participate in studies investigating future domestic water supply alternatives; evaluate future source alternatives.

Implementing Policy 6.2-d: Continue water conservation efforts.

Implementing Policy 6.2-e: Use storm or recycled water for the planned golf course and continue its use for other non-domestic purposes, such as public parks and street tree irrigation.

In the Fall 1991, the City adopted Landscape Water Conservation and Irrigation Guidelines with the aim to reduce the current share (approximately 50 percent) of water use for commercial and residential landscaping.

10.3 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, any land use directed by the WISP would have a significant impact on the environment if the land use would:

a. Violate any water quality standards or waste discharge requirements.

b. 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).

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

d. 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 substantial flooding on- or off-site.

e. 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.

f. Otherwise substantially degrade water quality.

g. Place housing within a 100-year flood hazard as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map.

h. Place within 100-year flood hazard area structures which would impede or redirect flood flows.

i. 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.

j. Inundation by seiche, tsunami, or mudflow.

Soil erosion is addressed in Geology, Soils, and Seismicity, Section 8.

Stormwater drainage system capacity is addressed in Public Facilities and Services, Section 14.

10.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT HWQ-1: Planned development in the Westside Industrial Specific Plan (WISP) could violate water quality standards or waste discharge requirements.

Level of Significance: Potentially Significant

Mitigation Measures:

HWQ-1.1: Industrial uses that require water for processing or cooling shall submit a wastewater budget to Municipal Services. The wastewater budget shall indicate the total wastewater demand, **the quality of the wastewater**, and the opportunities for wastewater re-use and water conservation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-41)

HWQ-1.2: Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality. (Westside Industrial Specific Plan Resources Policy R-R-7)

Residual Level of Significance: Less than Significant with Mitigation

Compliance with RWQCB and Turlock Municipal Services regulations will reduce the impact on water quality from the proposed WISP project.

POTENTIAL IMPACT HWQ-2: Planned development in the WISP could substantially deplete groundwater supplies or interfere with groundwater recharge.

Increasing water demand and the absence of alternative supplies have resulted in declining groundwater levels in recent years throughout the Central Valley. Given that there are no notable groundwater recharge areas identified within Turlock or the Study Area, water conservation measures must be implemented to reduce the demand on groundwater supplies.

Water conservation is further discussed in Section 14, Public Facilities and Services.

Level of Significance: Potentially Significant

HWQ-2.1: Strive to develop public infrastructure that utilizes **water** and energy **resources** in a conservative, sustainable manner. (Westside Industrial Specific Plan Infrastructure and Services Objective 4)

HWQ-2.2: Maintain and protect the quality of groundwater resources. (Westside Industrial Specific Plan Infrastructure and Services Objective 5)

HWQ-2.3: Encourage water conservation in industrial processes by making reclaimed wastewater available for cooling, and other industrial use in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-38)

HWQ-2.4: Consider the feasibility of the extension of reclaimed wastewater distribution systems where new sewer and water lines are being constructed in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-39)

HWQ-2.5: Encourage potable water conservation in site landscaping and streetscape landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-40)

Residual Level of Significance: Less than Significant with Mitigation

Implementation with the above mitigation measures will help reduce the water demand and groundwater depletion rate.

POTENTIAL IMPACT HWQ-3: Implementation of the WISP could alter the existing drainage pattern, or increase the rate of runoff that could result in flooding.

Level of Significance: Potentially Significant

Urban development increases the amount of impervious surfaces, which in turn increases the amount of runoff.

There are no natural drainages in the Study Area. WISP would be connected to the existing storm water drainage system, with the addition of new pump stations and detention basins. The WISP project provides for and anticipates that a substantial amount of storm water will be managed and detained on the larger development sites within the Study Area. The allowable outflow would be limited to the pre-development flow.

Storm water management is further discussed in Section 14, Public Facilities and Services.

Mitigation Measures:

HWQ-3.1: The City shall design the Dianne Drive detention basin for joint recreation and **storm water management use**. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-43)

HWQ-3.2: On-site storm water detention shall be provided on any site larger than two acres, and shall be designed for future connection to the City's storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-44)

HWQ-3.3: Site grading shall be designed to create positive drainage throughout the site and to collect the storm water for the storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-47)

HWQ-3.4: Large commercial and industrial water users shall submit a water use and conservation plan as part of the project entitlement review and approval process, and shall develop a program to monitor compliance with and effectiveness of that plan. (Westside Industrial Specific Plan Resources Policy R-P-8)

HWQ-3.5: Actively pursue the use of treated wastewater in irrigation and industrial applications, including development of appropriate infrastructure. (Westside Industrial Specific Plan Resources Policy R-P-9)

Residual Level of Significance: Less than Significant with Mitigation

The proposed WISP project is designed so that allowable outflow would be limited to the pre-development flow. This design, and the mitigation measures listed above, will help reduce the potential for flooding due to impervious surfaces.

POTENTIAL IMPACT HWQ-4: Runoff from new development and impervious surfaces would contain urban contaminants that could affect receiving water quality.

Level of Significance: Potentially Significant

Conversion of undeveloped land to urban uses would increase the amount of impervious surfaces, which in turn would alter the types of pollutants that could be present in runoff. Urban activities which increase polluted runoff include motor vehicle operation and maintenance, landscape maintenance, littering, careless material storage and handling (fertilizers, herbicides, pesticides, gasoline, oil, paint, etc.), and pavement wear.

Mitigation Measures:

HWQ-4.3: Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality. (Westside Industrial Specific Plan Resources Policy R-P-7)

HWQ-4.4: The discharge of oil, gasoline, diesel fuel, or any other petroleum derivative, or any toxic chemical or hazardous waste is prohibited. (Westside Industrial Specific Plan Resources Policy R-P-10)

HWQ-4.5: Materials and equipment shall be stored so as to ensure that spills or leaks cannot enter storm drains, or the drainage ditches or detention basins. (Westside Industrial Specific Plan Resources Policy R-P-11)

HWQ-4.6: A spill prevention and cleanup plan shall be implemented. (Westside Industrial Specific Plan Resources Policy R-P-12)

HWQ-4.7: Future industrial and commercial employers/employees shall be educated about prevention of urban contaminants entering storm drains, or the drainage ditches or detention basin. (Westside Industrial Specific Plan Resources Policy R-P-13)

HWQ-4.8: Maintain buffer areas between drainage ditches and detention basins, and urban development to protect water quality. (Westside Industrial Specific Plan Resources Policy R-P-14)

HWQ-4.9: Utilize cost-effective urban runoff controls, including Best Management Practices (BMP's) to limit urban pollutants from entering the drainage ditches and detention basins. BMP's shall include:

Construction BMP's

DS 1 During construction, temporary gravel, hay bale, earthen, or sand bag dikes and/or non-woven filter fabric fence, shall be used as necessary to prevent uncontrolled runoff that could enter storm drains, or the drainage ditches or detention basin.

DS 2 Surplus or waste material and/or fill of earthen material shall not be placed in the storm drains, or the drainage ditches or detention basins.

DS 3 All loose piles of soil, silt, clay, sand, debris, or other earthen materials shall be protected in a reasonable manner to prevent the discharge of these materials off-site, or into storm drains, or the drainage ditches or detention basins.

DS 4 After completion of a construction project, all surplus or waste earthen materials shall be removed form the site and deposited in an approved disposal location, or stabilized on-site.

DS 5 Fresh concrete or grout shall not be allowed to contact or enter drains, or the drainage ditches or detention basins.

DS 6 Dewatering should be done in a manner so as to eliminate the discharge of earthen materials off-site, or into storm drains, or the drainage ditches or detention basins.

DS 7 Any constructed drainage swales and catchment/infiltration areas should be stabilized by appropriate soils stabilization measures to prevent erosion.

DS 8 Dust shall be controlled to prevent the transport of such material off the project site or into storm drains, or the drainage ditches or detention basins.

DS 9 All disturbed areas shall be adequately re-stabilized or re-vegetated. Re-vegetated areas shall be continually maintained until vegetation becomes established.

DS 10 All non-construction areas should be protected by fencing or other means to prevent unnecessary disturbance. These boundary facilities shall be inspected periodically and shall be repaired when necessary.

Post-Construction (Project) BMP's

DS 11 Traps, filters, or other devices at drop inlets shall be installed to prevent contaminants from entering storm drains.

DS 12 All surface flow from the project site shall be controlled to prevent erosion.

DS 13 Culvert outlets shall be located on natural soil, not on fill.

(Westside Industrial Specific Plan Resources Policy R-P-15)

HWQ-4.1: The incorporation of grassy swales and other best management practices are encouraged to filter storm water. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-46)

HWQ-4.10: Water quality swales shall be landscaped with appropriate erosion control plant materials. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-48)

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significant of urban pollutants entering receiving waters will be reduced to less-than-significant with implementation of the above mitigation measures. BMPs are specifically designed to reduce the impact of urban runoff.

POTENTIAL IMPACT HWQ-5: **Implementation of the proposed WISP project could expose people of structures to inundation by seiche or mudflow.**

Level of Significance: **Less Than Significant**

It is highly unlikely that inundation from a seiche (earthquake-induced, tsunami-like flows of water from an inland body of water) will affect the Study Area. The nearest body of inland water is the Merced River, located approximately six miles to the south. The San Joaquin River is located eight miles to the east, and the Tuolumne River approximately 10 miles to the north.

Given that the Study Area is nearly level in topography (Geology, Soils, and Seismicity, Section 8); it is highly unlikely that the Study Area would be inundated by mudflows.

References

(1) Central Valley Water Quality Control Board, 2002 303(d) List, By Water Body. www.swrcb.ca.gov/rwqcb5.

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11. LAND USE

This section describes the current land use patterns and development trends within the Westside Industrial Specific Plan (WISP) Area, and the regulatory and planning environment under which future land use planning will or may occur.

11.1 EXISTING CONDITIONS

11.1.1 Existing Land Use

A substantial portion of the Study Area remains in active agricultural production, including row crops and orchards. Active agricultural uses are found predominantly in the northern and western portions of the Study Area, but are also interspersed among industrial and commercial uses near SR 99. Agricultural activity will continue to be a part of the Study Area until converted to urban use.

At the time of preparation of the Specific Plan, the Study Area was partially developed with a mix of industrial and commercial uses, notably south of West Main Street and along North Walnut Road and Dianne Drive. The existing industrial uses include large industrial plants supported by rail, and smaller, light industrial facilities. Several of the existing industrial uses occupy large sites that include plant facilities, storage and transportation.

The portion of the Study Area to the east of SR 99 is developed in a mix of industrial and commercial uses. The industrial uses include large facilities, such as the International Paper plant on West Main Street, and small industrial buildings. The area is substantially developed, but a number of vacant parcels near the SR 99 frontage have potential for additional industrial uses. Older portions of the industrial areas are strictly utilitarian in character, with little or no on-site or street front landscape. Most of the industrial and industrial related commercial and service uses include steel or concrete buildings, paving, and wire mesh fences.

Highway oriented commercial uses are clustered near the SR 99 interchanges, most notably at West Main Street. A commercial center that includes restaurants and a theater is located on West Main Street.

The Turlock Irrigation District is constructing the Walnut Energy Center (WEC), a 250 megawatt electric power generation facility, in the southwest quadrant of the Study Area. The City of Turlock Regional Water Quality Facility and a City fire station are located south of West Main Street along South Walnut Avenue.

A small number of scattered, single family homes are located in the southwest and central portion of the Study Area.

11.1.2 Adjacent Land Use

The Study Area is located at the western urbanized edge of the City. Land to the west, north and south of the Study Area is generally made up of row crops and orchards. The Turlock Auto Mall is located north of Fulkerth Road adjacent to the Study Area.

The land east of SR 99 is substantially urbanized in a mix of residential neighborhoods and support commercial. The area east and south of the West Main Street/ SR 99 interchange includes older neighborhoods and strip commercial uses. The uses east of the Fulkerth Road/SR 99 interchange include new retail areas and relatively newer residential neighborhoods

11.1.3 Physical Constraints

The Study Area does not include natural features such as hills or creeks that would constrain development. The Study Area terrain is relatively flat generally draining to the southwest. The lack of natural drainage courses and the flat terrain to create storm water management issues that constrain development by requiring a substantial portion of the land area, approximately 10 to 20 percent, to be used as on-site storm water detention areas.

The primary physical constrains are manmade. These include the Union Pacific railroad spur and Turlock Irrigation District's Upper Lateral No. 4 Canal. Both of these features transect the Study Area in an east-west direction and constrain the north-south circulation.

11.2 SUMMARY OF PROPOSED WISP LAND USE

The future land use pattern is partially established by the existing land uses. Notably, the industrial uses south of West Main Street establish that as an area suited to heavy and light industrial uses. Similarly the existing commercial uses on West Main Street and Fulkerth Avenue suggest the continued expansion of similar uses in those locations.

Office and commercial uses would be incompatible with heavy industrial uses. The Plan Area needs to locate uses adjacent to those that will have the least conflicts and needs to provide transitions between incompatible land uses.

Heavy industrial uses and other uses dependent on rail service should be located along the rail line or where spur lines can be extended. Likewise, those uses with heavy truck and/or employee traffic should be located where they will have access to the greatest road capacity.

The uses with the highest density of employment should be located near SR 99 and the major cross streets in order to minimize traffic conflicts with heavy truck traffic and out of area commuters.

Industrial uses would occupy most of the area south of West Main Street. Additional industrial uses would in-fill among uses similar in character that are already in the area. Expansion of the industrial uses would be located on the north side of West Main Street west of Fransil Lane. This area would provide spaces for large, single users, and/or development of an industrial park that would accommodate a variety of small uses. The proximity to West Main Street and Washington Road would provide excellent truck access. This area also provides potential use of recycled water from the Turlock Wastewater Treatment Plant and proximity to a major gas line and electric power from the new Turlock Irrigation District (TID) Walnut Energy Center energy plant.

From this cluster of heavy industrial uses the land plan transitions through industrial-office use to areas dedicated to office and commercial uses. The northeast quadrant of the Plan Area would provide the service commercial, office and institutional uses that would become recognized as the core of the Agri-Science Cluster.

Table 11-1

WISP Land Use Category by Acres

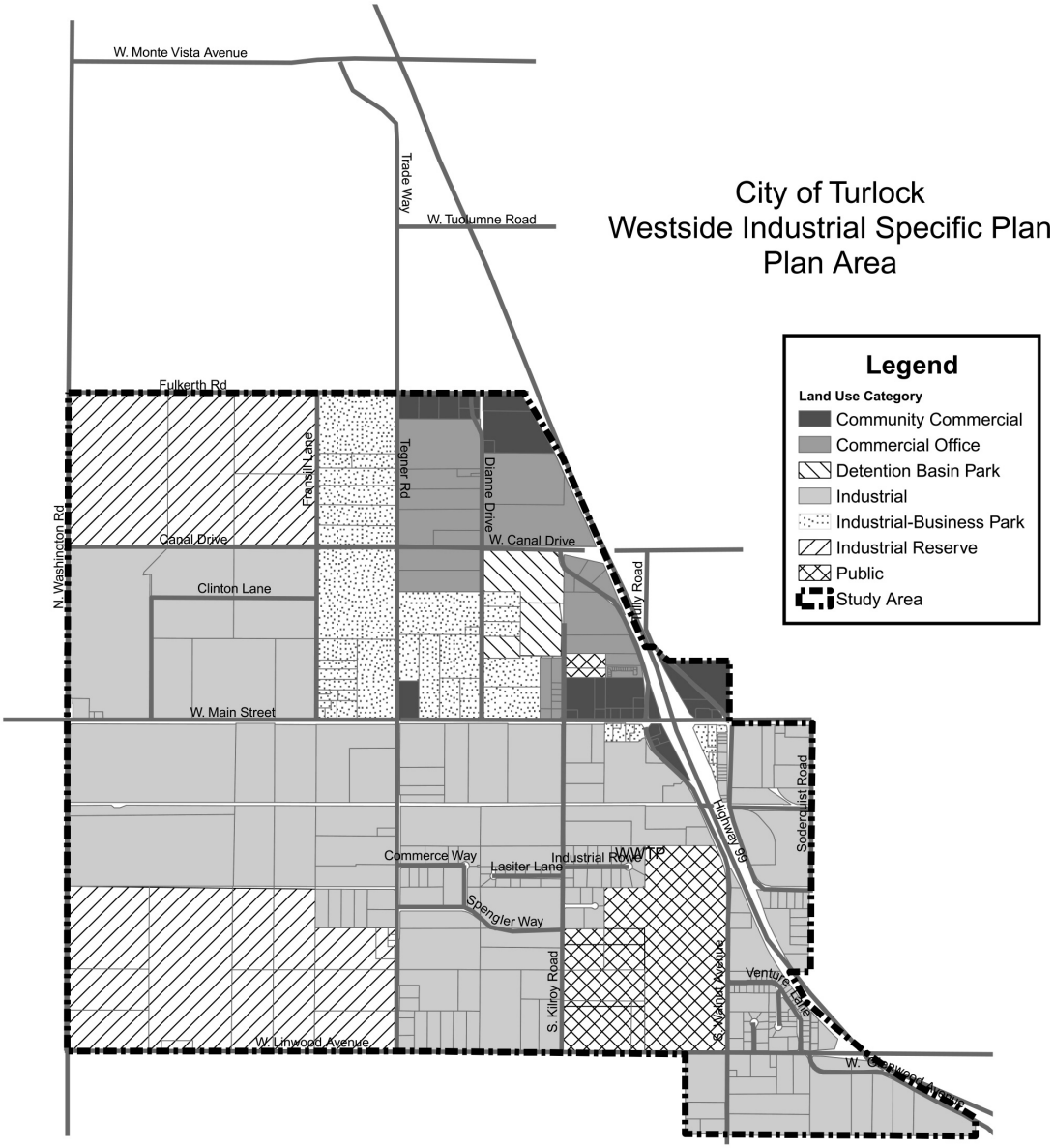
Land Use	Acres
Commercial Office (CO)	174
Community Commercial (CC)	87
Industrial Business Professional (I-BP)	250
Industrial (I)	1,211
Public (PUB)	171
Detention Basin Park (I-BP)	39
Industrial Reserve (IR)	515
Roads	185
Total	**2,632**

Source: Wade Associates, February, 2004

Figure 11-1 shows the proposed land use map.

Figure 11-1

Land Use Map



Source: Wade Associates, February, 2004

11.3 REGULATORY SETTING

11.3.1 Stanislaus County

Approximately 58 percent of the Study Area is within the incorporated boundary of the City of Turlock. The City will annex the unincorporated area as the Study Area incementally develops.

The land use designations in the Turlock General Plan will apply to the affected properties when those properties have been annexed to the City.

11.3.2 City of Turlock 1992 General Plan

The 1992 General Plan (reviewed in 2002) designated over 1,000 acres of industrial land primarily on the west side of the freeway. Over 300 acres have been annexed and zoned industrial since 1992. The 1992 General Plan includes the following Policies which apply to land uses in the Study Area.

- Guiding Policy 2.4-b: Provide adequate lands to accommodate the development of commercial areas, which will: (a) conveniently serve current and future residential needs, (b) provide employment opportunities, (c) contribute to the attractiveness of the community, and (d) contribute to the City's tax base.
- Guiding Policy 2.4-c: Designate areas for commercial and industrial uses only to the extent that adequate support (service land uses, etc.), convenient access to employment, and compatibility with adjacent land use designations can be assured.
- Guiding Policy 2.5-a: Minimize conflicts between industry and other land uses by concentrating industrial activity west of Highway 99.
- Guiding Policy 2.5-a-f: Maintain an adequate supply of industrial land within the incorporated city limits.
- Guiding Policy 2.5-h: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels.
- Guiding Policy 2.5-i: Buffer industrial and heavy commercial areas from adjacent residential, commercial, and recreation areas.
- Guiding Policy 2.6-a: Contribute to diversifying the City's employment base by designating large sites for office/business park use.

- Guiding Policy 2.6-c: Designate approximately 1,300 acres for a "high standard" office/industrial business park west of Highway 99.

11.3.3 California Farmland Mapping and Monitoring Program (FMMP)

The FMMP establishes criteria and mapping for prime farmland, unique farmland, and farmlands of statewide importance. The California Environmental Quality Act (CEQA) requires that these farmland designations be considered in the environmental analysis and consequently, may affect the WISP land use. The FMMP is discussed in Section 4 of this EIR.

11.4 IMPACT EVALUATION CRITERIA

The WISP would have a significant adverse impact on the environment if development would:

- Physically divide an existing community.
- 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, or zoning, ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- The proposed land use would create conflicts with established land uses.

11.5 IMPACTS AND MITIGATION

POTENTIAL IMPACT LU-1: **Proposed WISP land use would divide an existing community.**

The Study Area is located at the developed edge of the City, and is designated in the 1992 General Plan as the logical area of expansion for non-residential development. The proposed project will not divide the community.

Level of Significance: **No Impact**

POTENTIAL IMPACT LU-2: **The proposed WISP project would conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.**

The 1992 Turlock General Plan designates the WISP Study Area as the primary location for job development in Turlock. The fundamental purpose of the project is to implement the General Plan goals relating to a major industrial center in the City of Turlock. The Specific Plan thus

implements the policies established in the 1992 General Plan and does not conflict with the current policies of the City.

Level of Significance: **No Impact**

POTENTIAL IMPACT LU-3: **The proposed WISP project would conflict with any applicable habitat conservation plan or natural community conservation plan.**

There is no habitat conservation plan or natural community conservation plan applicable to the Study Area.

Level of Significance: **No Impact**

POTENTIAL IMPACT LU-4: **The proposed WISP project would create conflicts between incompatible land uses.**

There are potential conflicts between the proposed industrial and commercial land uses and the existing agricultural land uses and adjacent residential areas. These are substantially integrated by the design of the land use plan in a manner that segregates the industrial land uses that would be most likely to create conflicts. In addition, the Specific Plan includes policies that serve as mitigation measures to minimize the potential impacts.

Level of Significance: **Potentially Significant**

Mitigation Measures:

LU-4.1 Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P- 10 and General Plan Policy 2.5-h)

LU-4.2 Buffer industrial and heavy commercial areas from adjacent residential, commercial and recreation areas. (Westside Industrial Specific Plan Land Use Policy LU-P 11 and General Plan Policy 2.5-i)

LU-4.3 Where industrial uses are adjacent to non-industrial uses, appropriate buffering techniques such as set backs, screening, and landscaping need to be provided to mitigate any negative effects of industrial operations..

(Westside Industrial Specific Plan Land Use Policy LU-P 15)

LU-4.4 Wooden or open vertical metal (wrought iron style) fences shall be located at the interface of urban and agricultural uses. Wire mesh is not acceptable.

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented.

12. NOISE

This section is based upon and incorporates the noise analysis completed by Brown-Buntin, Inc., Noise Analysts: "Environmental Noise Assessment: Turlock Westside Industrial Plan, Turlock, California." This noise analysis is enclosed as Appendix G in Volume 2, Technical Appendix. Please refer to the Glossary included in Appendix G for definition of the noise terminology used.

12.1 EXISTING CONDITIONS

12.1.1 Ambient Noise Levels

Ambient noise level measurements were conducted within the WISP Study Area on September 15, 2003 at existing industries. The locations of the measurements are shown in Figure 12-1.

Noise monitoring equipment used for the study consisted of a Larson Davis Laboratories Model 820 integrating sound level meter equipped with a Bruel & Kjaer (B&K) Type 4176 1/2" microphone. The instrumentation complies with applicable requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters and was calibrated prior to use with a B&K Type 4230 acoustical calibrator to ensure the accuracy of the measurements.

The results of the measurements are shown in Table 12-1 in terms of energy average (L_{eq}) and maximum (L_{max}) noise levels. Not all existing industries in the WISP Study Area were measured. Some appeared to be inactive and at others no obvious emission of sound was discerned.

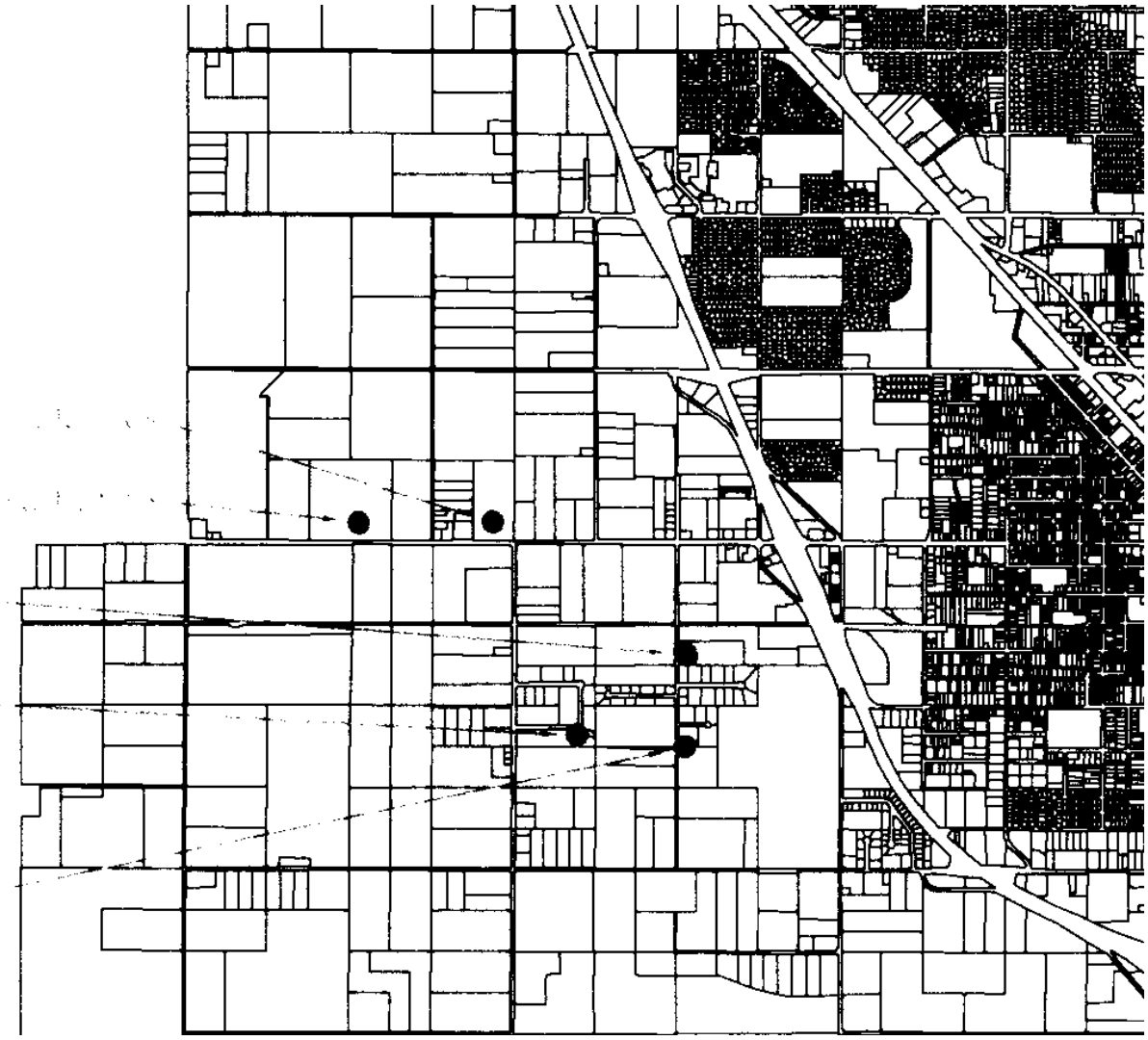
Table 12-1

SUMMARY OF NOISE LEVELS FROM EXISTING INDUSTRIES

Name	Location	Distance, Ft.	L_{eq}, dBA	L_{max}, dBA
California Dairies	W. Main & Tegner	200	56.0	59.2
American Cold Logistics	Kilroy Rd.	150	62.3	63.4
Sunnyside Farm Dairy	Kilroy & Spengler	200	69.3	70.2 '
Del Mesa Farms	2600 W. Main	250	60.8	61.7
A.T.B Packing Co.	Spangler Rd.	100	65.2	65.7

Source: Brown-Buntin Associates, Inc.

Figure 12-1
Noise Measurement Locations



12.1.2 Existing Traffic Noise Levels

An analysis of existing traffic noise levels in the project vicinity was prepared using the FHWA Highway Traffic Noise Prediction Model **(1)** and traffic data obtained from the traffic engineering study prepared for the project **(2)**.

The FHWA Model is the analytical method currently favored by most state and local agencies, including Caltrans, for highway traffic noise predication. The Model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ± 1.5 dB. The Model assumes a clear view of traffic with no shielding at the receiver location. To predict L_d, values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used as recommended by Caltrans to more accurately calculate noise levels generated by California traffic.

Table 12-2 shows calculated L_{dn} values for existing conditions at existing residential setbacks (approximately 50-100 feet from road centers) from roadways within and near the WISP Study Area. Only roads having adjoining residences were modeled. Note that walls were adjacent to some residential areas. The approximate noise reduction provided by the walls is accounted for in Table 12-2.

Table 12-2

EXISTING TRAFFIC NOISE LEVELS

AT RESIDENCES CLOSEST TO ROADWAYS

Roadway	Segment	L_{dn}	Distance to 60 L_{dn}, Ft.
Fulkerth Road	Tulley to Soderquist	69	187
	Tulley to Soderquist (w/6' Wall)	64	87
Canal Drive	Tulley to Golden State	63	75
	Tulley to Golden State (w/6' Wall)	58	35
W. Main Street	Soderquist to Lander	65	102
W. Linwood Avenue	Tegner to Walnut	58	59
	Walnut to Lander	60	60
Lander Avenue	Linwood to Main	66	125

*Residence setbacks range from about 50 to 100 feet from road centers.

Source: Brown-Buntin Associates, Inc.

12.1.3 Existing Rail Noise Levels

Rail noise is limited to the east-west rail spur in the WISP Study Area. Noise impacts are limited to locations near the rail spur. There are no noise sensitive land uses near the rail spur.

12.1.4 Sensitive Land Uses/Receptors

Noise sensitive land uses refer to specific uses where a person would be adversely impacted by noise and where the person would have the expectation of a relatively quiet environment. Uses include residences of all types, nursing homes, day care centers, medical facilities, schools, and parks near the WISP Study Area.

The existing sensitive receptors which may be impacted by the proposed WISP project include single-family residences and farmhouses within and adjacent to the Study Area.

12.2 TRAFFIC NOISE

12.2.1 Substantial Noise Increases

CEQA does not define what constitutes a "substantial" increase in noise levels. Some guidance is provided by the 1992 findings of the "Federal Interagency Committee on Noise (FICON)," which assessed changes in ambient noise levels resulting from aircraft operations. Their recommendations are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of the L_{dn} or CNEL. Annoyance is a summary measure of the general adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis for all transportation noise sources that are described in terms of cumulative noise exposure metrics such as the L_{dn} or CNEL. These metrics define noise exposure in terms of average noise exposure during a 24-hour period with penalties added to noise that occurs during the nighttime or evening. Table 12-3 summarizes the FICON recommendations.

Table 12-3

SUBSTANTIAL INCREASES FOR TRANSPORTATION NOISE EXPOSURE

Ambient Noise Level Without Project (L_{dn} or CNEL)	Significant Impact Assumed to Occur if the Project Increase Ambient Noises Levels By:
<60 dB	+ 5 dB or more
60-65 d13	+3 d13 or more
>65 dB	+2 dB or more
Source: *FICON as applied by Brown-Buntin Associates, Inc.*	

For noise sources that are not transportation related, which usually includes stationary noise sources, it is common to assume that a 3-5 dB increase in noise levels represents a substantial increase in ambient noise levels. This is based on laboratory tests that indicate that a 3 dB increase is the minimum change perceptible to most people, and a 5 dB increase is perceived as a definitely noticeable change.

12.2.2 Project-Related Traffic Noise

Project-related traffic noise impacts were analyzed and compared for two traffic scenarios:

- Existing, with and without WISP project
- Year 2025, with and without project

The methods used to calculate traffic noise exposure were the same as used for existing conditions.

The noise level may be considered significant if the project exceeds applicable noise standards. The standards for noise levels that apply to this project are those within the City of Turlock General Plan Noise Element.

The City of Turlock Noise Element of the General Plan sets a standard of 60 dB L_{dn} due to transportation noise at the exterior of noise-sensitive uses. Noise-sensitive uses include residences, schools, hospitals and churches. Acceptable noise levels from stationary noise sources are determined by the hourly L_{eq} (energy average) and L_{max}(maximum) noise levels. From 7:00 a.m. to 10:00 p.m., the L_{eq} standard is 55 dBA; the L_{max} standard is 75 dBA. From 10:00 p.m. to 7:00 a.m. the L_{eq} standard is 45 dBA; the L_{max} standard is 65 dBA.

Table 12-4 shows traffic noise levels for the two scenarios at existing residential setbacks from roads (50 to 100 feet from centerline). Also shown is the change in traffic noise levels attributable to the additional traffic generated by the WISP project. Traffic noise levels are considered to be significant if the project results in levels that exceed the 60 dB L_{dn} City compatibility criterion. Table 12-4 shows that the WISP project will cause traffic noise levels to exceed City criteria along W. Linwood Avenue from Tegner to Walnut and from Walnut to Lander.

The second test of significance is the relative increase in traffic noise levels caused by the project. Table 12-3 above shows the criteria that are used to determine if the project will cause a substantial noise increase. Table 12-4 shows that the increases will exceed the Table 12-3 criteria along W. Linwood Avenue.

Table 12-4

Project Related Traffic Noise Levels at Residences Closest to Roadway

		$L_{dn,}$ dB					
		Existing No Proj.	Existing w/Proj.	Chg.	2025 No Proj.	2025 w/Proj.	Chg.
Fulkerth Rd.	Tulley to Soderquist	69	69	0	71	71	0
.	Tulley to Soderquist (w/6' Wall)	64	64	0	66	66	0
Canal Dr.	Tulley to Golden State	63	65	+2	65	66	+1
.	Tulley to Golden State (w/6'	58	60	+2	60	61	+1
W. Main St.	Soderquist to Lander	65	66	+1	66	67	+1
W. Linwood Ave.	Tegner to Walnut	58	64	+6	63	66	+3
.	Walnut to Lander	60	64	+4	63	65	+2
Lander Ave.	Linwood to Main	66	66	0	68	68	0

Source: Brown-Buntin Associates, Inc.

12.3 INDUSTRIAL AND COMMERCIAL NOISE SOURCES

Since only land uses (not specific industries or commercial uses) are proposed, this analysis must necessarily address a variety of potential uses and their possible noise effects in general terms. However, the objective will be to provide recommendations for specific noise mitigation measures which may be implemented by the City of Turlock to minimize the potential for noise conflicts.

A wide variety of land uses is permitted in industrial and commercial zoned areas. Thus there is the potential for a wide variety of noise sources associated with those uses. However, the noise sources which could be present can be categorized as either fixed or mobile noise sources, and the typical sources of concern can be limited to relatively few. For example, the following list describes typical noise sources of concern in industrial and commercial uses.

Stationary Noise Sources

Fans and blowers
Impact-causing devices, such as:
- hammers
- presses
- bottling equipment

loading operations (lumber, pipes)
Saws, routers, grinders
Cardboard compactors
Small engine repair and testing
Auto, motorcycle, boat repair and testing
Car wash equipment
Vacuums
Garage compactors
Machine shop equipment
Barking dogs (kennels)
Music (in studios)
Music (in bars and restaurants)
Arcade games
Carnivals
Heating and ventilation (HVAC) units

Mobile Noise Sources
Delivery trucks
Heavy truck loading and unloading
Forklifts

It is difficult to quantify noise levels produced by the noise sources listed above, as the levels depend upon such variables as the size of the equipment, the amount of noise control engineered into the equipment, the distance to the equipment or activity, and whether the receiver is shielded from the noise by a close structure, a barrier, or an intervening building. In general, however, each of the noise sources listed above has the potential to exceed the provisions of the City of Turlock noise standards.

From an administrative standpoint, specific noise control measures can currently be implemented by mitigation measures required by an environmental review process, by conditions of approval in a use permit, or after the fact by enforcement of a noise ordinance.

Where a property is zoned for industrial uses, the land uses of concern from the standpoint of noise emissions are permitted to be built without additional review or conditions of approval. Therefore it is important to incorporate any practical or necessary noise mitigation measures in the environmental review process. However, since the future occupants and specific land uses on the property are usually not known at the time of establishing zoning, it is not possible to define specific noise mitigation measures. General mitigation measures can be imposed which can limit the potential for creation of noise conflicts, but the only effective tool for ensuring noise compatibility is enforcement of the noise control ordinance after the project has been completed. The primary mitigation measure in this case is adherence to the standards of the City of Turlock Noise Element.

12.4 REGULATORY SETTING

12.4.1 Federal Standards

The U.S. Department of Housing and Urban Development (HUD) has set an L_{dn} of 45 dB as its goal for interior noise in residential units built with HUD funding.

12.4.2 State of California Standards

The Office of Noise Control, California Department of Health Services (DHS), has established four categories for judging the severity of noise intrusion on specified land uses:

- normally acceptable - no undue burden on affected receptors and no mitigation needed
- conditionally acceptable - some mitigation of exposure, as established by an acoustic study, would be warranted
- normally unacceptable - noise intrusion is so severe that it would require extraordinary noise reduction measures to avoid disruption
- clearly unacceptable - noise so severe that it cannot be mitigated

Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new multi-family residential units. The standards require that acoustical studies be conducted prior to construction where the future Ldn exceeds 60 dbA. Mitigation measures are required that will limit maximum L_{dn} values to 45 dB in any inhabitable room.

12.4.3 Non-Regulatory Standards of Significance

Another means of assessing noise impact is to estimate public reaction to the change in noise level that results from a given project. Expected human reactions to changes in ambient noise levels have been quantified by metrics that define short-term exposure (e.g., hourly Leq, Lmax, and Ln) to noise. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable.

12.4.4 City of Turlock Noise Standards

The City of Turlock Noise Ordinance establishes the noise standards shown in Table 12-5 below.

Table 12-5

Land Use Compatibility Guidelines for Development

Land Use Category	Community Noise Exposure Ldn or CNEL,dB						
		55	60	65	70	75	80
Residential, Theaters, Auditoriums, Music Halls, meeting Halls, Churches							
Transient Lodging-Motels, Hotels							
Schools, Libraries, Museum, Hospitals, Nursing Homes							
Playgrounds, Neighborhood Parks							
Office Buildings							

Acceptable
Conditionally Acceptable
Unacceptable

Notes:

Acceptable: Specified land use is satisfactory. No noise mitigation measures are required.

Conditionally Acceptable: Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the Noise Element.

Unacceptable: Development is usually not feasible in accordance with the goals of the Noise Element.

Source: City of Turlock. 1992 General Plan, Noise Element

12.5 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, any substantial increase in the ambient noise levels for adjoining areas would be significant if the project would result in:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

12.6 IMPACTS AND MITIGATION

POTENTIAL IMPACT N-1: **Planned development in the proposed Westside Industrial Specific Plan (WISP) could result in exposure of persons to noise levels in excess of established standards.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-1.1: Require stationary noise sources proposed in areas adjacent to noise-sensitive uses to be mitigated so as to not exceed the noise level performance standards. (Westside Industrial Specific Plan Resources Policy R-P-53)

Residual Level of Significance: **Less Than Significant With Mitigation**

The level of significance will be mitigated to less than significant if the above mitigation measure is implemented. This measure will reduce the exposure of people to noise levels in excess of established standards.

POTENTIAL IMPACT N-2: **Implementation of the proposed WISP project could expose people to the impacts of construction noise.**

During the construction phases resulting from implementation of the WISP project, noise from construction activities would dominate the noise environment in the immediate area of construction.

Activities involved in construction would generate noise levels ranging from 70 dB to 90 dB at a distance of 50 feet. Construction equipment operations can vary from intermittent to continuous, with multiple pieces of equipment operating concurrently. Construction activities would be temporary in nature and would most likely occur only during the daytime hours. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operations were to occur or if equipment is not properly muffled or maintained. During construction, traffic noise in the general area would be reduced because of the reduction in speed required by working road crews. Conversely, noise levels due to vehicles leaving the construction area would be slightly higher than normal as a result of acceleration. The net effect of the accelerating and decelerating traffic upon noise would not be appreciable.

Level of Significance: Less Than Significant

Since construction activities would be temporary in nature and typically occurring during normal working hours, construction noise is not considered significant.

POTENTIAL IMPACT N-3: Implementation of the proposed WISP project could expose residents adjacent to the Study Area to the impact of future roadway traffic noise.

Table 12-4 above shows that the WISP project will cause traffic noise levels to exceed City standard of 60 dB L_{dn} criteria along W. Linwood Avenue from Tegner to Walnut and from Walnut to Lander.

Level of Significance: Potentially Significant

Mitigation Measures:

N-3.1: Work in cooperation with the **City,** Caltrans, and the Union Pacific Railroad to maintain noise level standards for the Plan Area in compliance with adopted noise standards. (Westside Industrial Specific Plan Resources Policy R-P-54)

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be less than significant if the above mitigation measure is implemented. Compliance with the City of Turlock Noise Standards will help reduce the exposure of adjacent Study Area residents to future roadway traffic noise.

POTENTIAL IMPACT N-4: Implementation of the proposed WISP project could expose residents to the impact of railroad noise.

Rail noise is limited to the east-west rail spur in the WISP Study Area. Noise impacts are limited to locations near the rail spur. There are no residences or other noise sensitive land uses near the rail spur.

Level of Significance: **Less Than Significant**

Potential Impact N-5: **Implementation of the proposed WISP project could expose residents adjacent to the Study Area to the impacts of future industrial and commercial noise.**

It is not possible to predict new industrial/commercial noise impacts since the WISP project does not specify actual industries or commercial uses that will be built; nor does the plan specify the actual sources of noise that are often associated with industrial/commercial uses. Please refer to the list of stationary noise sources listed in Section 12.3 above.

Although it is not possible to predict with certainty new sources of industrial/commercial noise, it is possible that noise impacts may occur where such adjoin or are close to proposed or existing noise-sensitive uses, such as residential developments.

Level of Significance: **Potentially Significant**

Mitigation Measures:

N-5.1 Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, local traffic conditions, visual quality, and **noise levels**. (Westside Industrial Specific Plan Land Use Policy LU-P- 10)

N-5.2 New industrial and commercial development with actual or projected exterior noise levels or greater than 60 dB Ldn, shall be conditioned to use mitigation measures to reduce exterior noise levels to less than or equal to 60 dB Ldn. (Westside Industrial Specific Plan Resources Policy R-P-55).

N-5.3 Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, sound walls, enclosing certain noise creating equipment/activities, use of muffling or silencing equipment as necessary to ensure compliance with the City of Turlock Noise Standards. (Westside Industrial Specific Plan Resources Policy R-P-56).

N-5.4 Noise-producing equipment shall be set back from the noise-sensitive property line to the maximum practical extent. (Westside Industrial Specific Plan Resources Policy R-P-57).

N-5.5 Operation of mechanical refrigeration units on trucks shall be prohibited during loading/unloading in areas adjacent to noise-sensitive uses. (Westside Industrial Specific Plan Resources Policy R-P-58).

N-5.6 On-site vehicles such as forklifts shall be required to have and maintain adequate mufflers. (Westside Industrial Specific Plan Resources Policy R-P-59).

Residual Level of Significance: Less Than Significant With Mitigation

The level of significance will be mitigated to less than significant if the above mitigation measures are implemented. Through enforcement of the noise standards and the use of noise attenuation measures, the exposure of people to industrial and commercial noise will be reduced or eliminated.

References

1. FHWA Highway Traffic Noise Prediction Model, FHWA-RD-108, U.S. Department of Transportation, Federal Highway Administration, December 1978.

2. Omni-Means, *City of Turlock-Westside Industrial Specific Plan Traffic Circulation Study*, June 2003.

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13. POPULATION AND HOUSING

The proposed Westside Industrial Specific Plan (WISP) proposes non-residential development as discussed in Section 2, Project and Alternatives Description and Section 11, Land Use. The WISP project is intended to provide employment opportunities for Turlock and south Stanislaus County residents who now must commute to other locations for job opportunities.

13.1 EXISTING CONDITIONS

13.1.1 Population

The California Department of Finance, Demographic Research Unit estimates that the population in the City of Turlock was 64,240 as of January 2004.

The population of Turlock has increased in recent years as housing prices have remained relatively affordable in the region compared to the regional housing market in the Bay Area. Table 13-1 reflects Turlock's demographic changes in the decade 1990 through 2000, which includes a population increase of 13,612 (32.26%).

Table 13-1

Summary of Turlock's Population Characteristics 1990 –2000

	1990 Census	2000 Census	Net Change
Total Population	42,198	55,810	+13,612
Total Households	14,698	18,408	3,710
Total Housing Units	15,400	19,044	3,644
Average Household Size	2.87	2.92	.05

Table 13-2 shows Turlock's population projection through 2015, based on the California Department of Finance 2004 population for Turlock.

Table 13-2

City of Turlock Population Projection (3.38% Annual Growth Rate[1])

Year	Population
2004[2]	64,240
2005	66,411
2006	68,656
2007	70,977
2008	73,376
2009	75,856
2010	78,420
2011	81,070
2012	83,810
2013	86,643
2014	89,572
2015	92,599

Source: [1]City of Turlock General Plan; [2]California Department of Finance, Demographic Research Unit; Wade Associates

13.1.2 Housing

Table 13-3 indicates the change in Turlock's housing stock characteristics in the decade between the 1990 and 2000 Census. The housing stock rose a total of nearly 24% in the decade. The majority of this growth was in single family detached dwellings.

Table 13-3

Turlock Housing Stock Characteristics

Housing Stock Characteristics	1990	2000
Total Housing Units	**15,400**	**19,044**
Single-Family Detached	9,395 (61%)	12,491 (65.5%)
Single-Family Attached	560 (3.6%)	960 (5.0%)
Duplex	723 (4.7%)	617 (3.2%)
3 to 4 Units	955 (6.2%)	1,124 (5.9%)
5+ Units	3,107 (20.2%)	3,250 (17.1%)
Mobile Homes	549 (3.6%)	584 (3.1%)
Other	111 (0.7%)	18 (0.1%)
Owner Occupied	52.5%	55.8%
Renter Occupied	47.5%	44.2%
Vacancy Rate	4.6%	3.6%

Source: Turlock 1992 General Plan Housing Element, U.S. Census 2000

13.1.3 Jobs/Housing Balance

One of the primary requirements for a prosperous economy is the dynamic interaction of the labor market and the housing market. A prosperous economy requires both jobs and housing, in adequate quantity and quality.

Out-commuting is one result of an out-of-balance ratio of jobs-to-housing. Residents who commute to other locations for employment spend money outside their own community. The availability of quality housing, affordable to the existing and prospective workforce, is a critical factor in the attraction of employees.

The majority of home to work commutes for residents of the Stanislaus Region stay within this region. Stanislaus Council of Governments (StanCOG) has monitored the ratio between employed workers and the number of jobs in the county. In 1990 the number of employed residents exceeded the number of jobs by 20.97%. In 2001 the number of employed residents exceeded the number of jobs by 14.7%. This would suggest that a higher percentage of workers were able to find jobs in the county in 2001 compared to 1990, and therefore, the number of people commuting out of the area for work is declining. (1)

However, Table 13-4 shows the place of employment for all workers who reside in Stanislaus County in 2000 compared to 1990 would suggest that there is an increase in the percentage of workers commuting out of the county for jobs. This would support the need to add jobs to the region to mitigate the out-commuting that occurs.

Table 13-4

Employed Residents' Commuting Patterns

Place of Employment	1990	2000
Within Stanislaus County	88.1%	79.0 %
Outside Stanislaus County	11.9%	21.0 %

Source: Excerpted from Turlock 1992 General Plan Land Use Element, Table 2.9-A., 2000 Census(3)

Implementation of the 1992 Turlock General Plan

In 1990 41% of Turlock residents worked within the city limits. As discussed below in Section 13.2.4, a 1992 General Plan policy is to increase the percentage of employed residents who work within the City to 60 percent of the total. The 1992 Turlock General Plan designates the WISP Study Area as the primary location for job development in Turlock. The fundamental purpose of the project is to implement the General Plan goal for a major industrial center in the City of Turlock. The Specific Plan implements the policies established in the City of Turlock General Plan.

The Specific Plan includes the following objectives to reduce the jobs/housing imbalance:

- Improve the jobs/housing balance in south Stanislaus County by providing local job opportunities in Turlock, thereby, reducing the home-to-work commute by Turlock residents. (Westside Industrial Specific Plan Objective 3)

- Identify and plan for industrial and office land use to satisfy the long term employment growth that will sustain the economic viability of the community. (Westside Industrial Specific Plan Land Use Objective 1)

- Establish an attractive industrial and business park that will provide a high quality work environment and an attractive landmark for the City of Turlock along SR 99. (Westside Industrial Specific Plan Land Use Objective 2)

13.2 REGULATORY SETTING

13.2.1 City of Turlock

The 1992 Turlock General Plan Land Use Element establishes the following policies related to the balance of jobs and housing:

- Guiding Policy 2.9-a: Maintain a balance between jobs in the different sectors in Turlock and the number of employed residents. *This means increasing employment opportunities for Turlock residents who work elsewhere and residential opportunities for those who work in Turlock but live elsewhere.*

- Guiding Policy 2.9-b: Undertake efforts to increase the percentage of employed residents who work in the City to 60 percent of the total.

13.3 IMPACT EVALUATION CRITERIA

For the purposes of this EIR, impacts would be significant if implementation of the proposed General Plan would:

- induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);

- Exacerbate the existing jobs/housing imbalance in south Stanislaus County.

13.4 IMPACTS AND MITIGATION

POTENTIAL IMPACT H-1: **Implementation of the Westside Industrial Specific Plan (WISP) would increase the City's population over existing conditions.**

Level of Significance: **Less Than Significant**

The WISP project proposes industrial, commercial, and business uses, and would not directly increase Turlock's population. Therefore, no increase in population will occur directly as a result of the proposed plan. Population in California in general and in the San Joaquin Valley specifically, will increase in the future for several reasons, including less expensive housing compared to major population centers.

The City of Turlock is establishing the Specific Plan to provide an industrial and commercial base for future employment and economic stability in order to provide local employment. Thus, the Specific Plan is intended to create jobs that will balance increases in population generated, in large part, by other factors beyond the control of the City. To some unknown degree, the

availability of jobs will attract new residents who would not otherwise select Turlock as a place to live. To that degree the new jobs could be considered to induce increases in population, however, this is balanced by the fundamental purpose of providing employment for a population that exists and would grow irrespective of the job development in the Study Area.

POTENTIAL IMPACT H-2: The Westside Industrial Specific Plan (WISP) project will exacerbate the existing jobs/housing imbalance.

Level of Significance: Beneficial Impact

The existing jobs-housing imbalance is a result of the job market not expanding as quickly as the housing market. Therefore, if Turlock attracts new industry and businesses, the jobs/housing balance should improve.

References:

(1) Stanislaus Council of Governments "Draft Regional Housing Needs Assessment, Stanislaus County and its Cities, January 1, 2001 - July 1, 2008"

(2) Telephone conversation with Elizabeth Baker, San Joaquin/Stanislaus Labor Market Consultant, California Economic Development Department

(3) U.S. Census Bureau, "Residence County to Workplace County Flows for California, Sorted by Residence State and County", 2004

14. PUBLIC FACILITIES AND SERVICES

The public facilities and services issues addressed in this section include domestic water, water quality control (sewer), storm water drainage, solid waste disposal, parks and recreation, police protection, and fire protection.

14.1 WATER

14.1.1 Existing Resources

The City supplies domestic water to residential, industrial, and commercial connections within its corporate limits, and also to a rest-stop on Highway 99. Irrigation water is provided by the Turlock Irrigation District (TID) and privately-operated wells. The City does not chemically treat or chlorinate any water it supplies.

Groundwater Supply

Domestic water supply is currently derived from deep groundwater wells that have a capacity to supply 45 million gallons per day (mgd).

Existing City wells in or near the Study Area include:

- Well #15 (1,500 gpm) located on West Main Street, east of Tully Road
- Well #34 (1,500 gpm) located on Dianne Drive

A local grid of 10-inch and 12-inch water lines distributes water as far west as Tegner Road and north along Dianne Drive.

Figure 14-1 illustrates the location of the existing water facilities.

Figure 14-1

WISP Water Master Plan

14.1.2 WISP Project

Full development of the Study Area will require the addition of two new wells, each with a capacity to pump 1,800 gpm. These wells would potentially be located on Ruble Road (Well A) midway between Washington Road and Tegner Road, and on Fulkerth Road (Well B), as shown on Figure 14-1 above. The additions to the distribution system would consist of 12-inch water lines connecting to the grid and extending along the major road alignments throughout the Study Area.

14.2 WASTEWATER TREATMENT (SEWER)

14.2.1 Existing Resources

The City provides water quality control and disposal service to residential, commercial, and industrial users in Turlock, and to approximately 2,800 residents in Keyes and another approximately 3,000 in Denair Community Services Districts.

Treatment Capacity

The Turlock Water Quality Control Facility at Linwood Avenue and Walnut Road (located within the Study Area) is designed for a hydraulic flow of 20.0 million gallons per day (mgd).

The average daily flow into the water quality control facility during year 2000 was 11.9 mgd, approximately 60% of the total capacity. Industrial users have in use, or in reserve, 7.1 mgd or approximately 36% of the current hydraulic design capacity.

Sewer Collection System

The existing wastewater collection system in the Study Area consists of a variety of sanitary sewer lines ranging from 10 inches to 24 inches. The sewer collection system extends west to Tegner Road where a 24-inch line collects wastewater from Fulkerth Road and Dianne Drive to the north and Commerce Way to the south. An existing pump station is located on South Kilroy Road, just west of the water quality control facility. The treated effluent is discharged into the San Joaquin River via Turlock Irrigation District Lateral Drain #5.

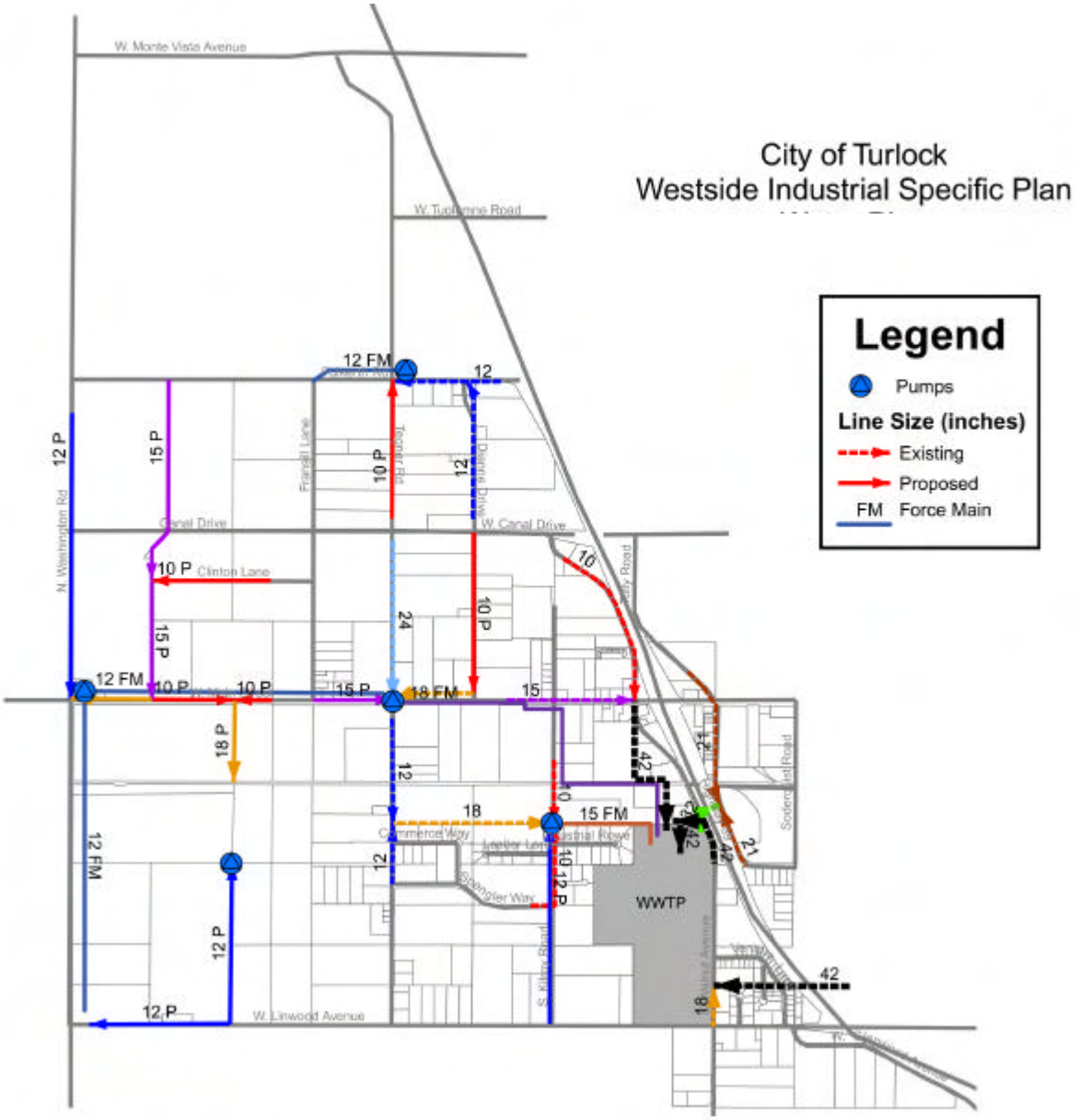
14.2.2 WISP Project

Future development of the Study Area will require extension of the wastewater collection system to Washington Road. The collection system will consist of lines ranging from 8 inches to 21 inches that will gravity flow to a new pump station located in the center section defined by West

Main Street, West Linwood Avenue, Washington Road, and Tegner Road. A 12-inch force main will carry the wastewater east to the Water Quality Control Facility. In addition to the new pump station, the existing pump station will be upgraded.

The Sewer Master Plan for the Study Area is shown in Figure 14-2.

Figure 14-2 WISP Sewer Master Plan



14.3 STORM WATER DRAINAGE

14.3.1 Existing Resources

Historically, storm drainage in Turlock was handled by a system of storm sewers and pump stations that discharged primarily into Turlock Irrigation District (TID) Lateral #4 Drain. Existing drainage agreements allow the City to discharge storm water in Laterals #3, #4, and #5 when capacity is available.

1988 Storm Drain Master Plan

To decrease dependence on the irrigation canals and unify Turlock's different storm drainage systems, the City adopted a comprehensive plan for storm drainage in 1988. It provides for the collection of all City storm water to a storage basin on the west side of the Water Quality Control Facility. An existing sewer outfall will be used to discharge the storm water into the TID Lateral No. 5 Drain which carries the storm water to the San Joaquin River, or to Gomes Lake from which it will be pumped into the San Joaquin River.

Water will be directed to the Water Quality Control Facility through three major systems, identified by the streets in which the major trunk lines are located. Each system has sub-areas, many of which have planned or operating detention basins. Most detention basins will also be designed so that they may be used as parks.

Centralization and consolidation of all storm water flows at the Water Quality Control Facility, rather than multiple widely scattered discharge points, will better position the City to deal with storm water treatment.

14.3.2 WISP Project

A 60-inch storm drain runs south on Dianne Drive and discharges to the existing Detention Pond #2 at Canal Drive. This water is then carried through a 42-inch line in South Kilroy Road to Detention Pond #3 on the west side of the Water Quality Control Facility, and then discharged to a 24-inch outfall pipe to the TID Lateral No. 5 Drain. Existing Detention Pond #4 serves a small industrialized areas east of the Water Quality Control Facility to South Walnut Avenue.

Storm Water Management Plan

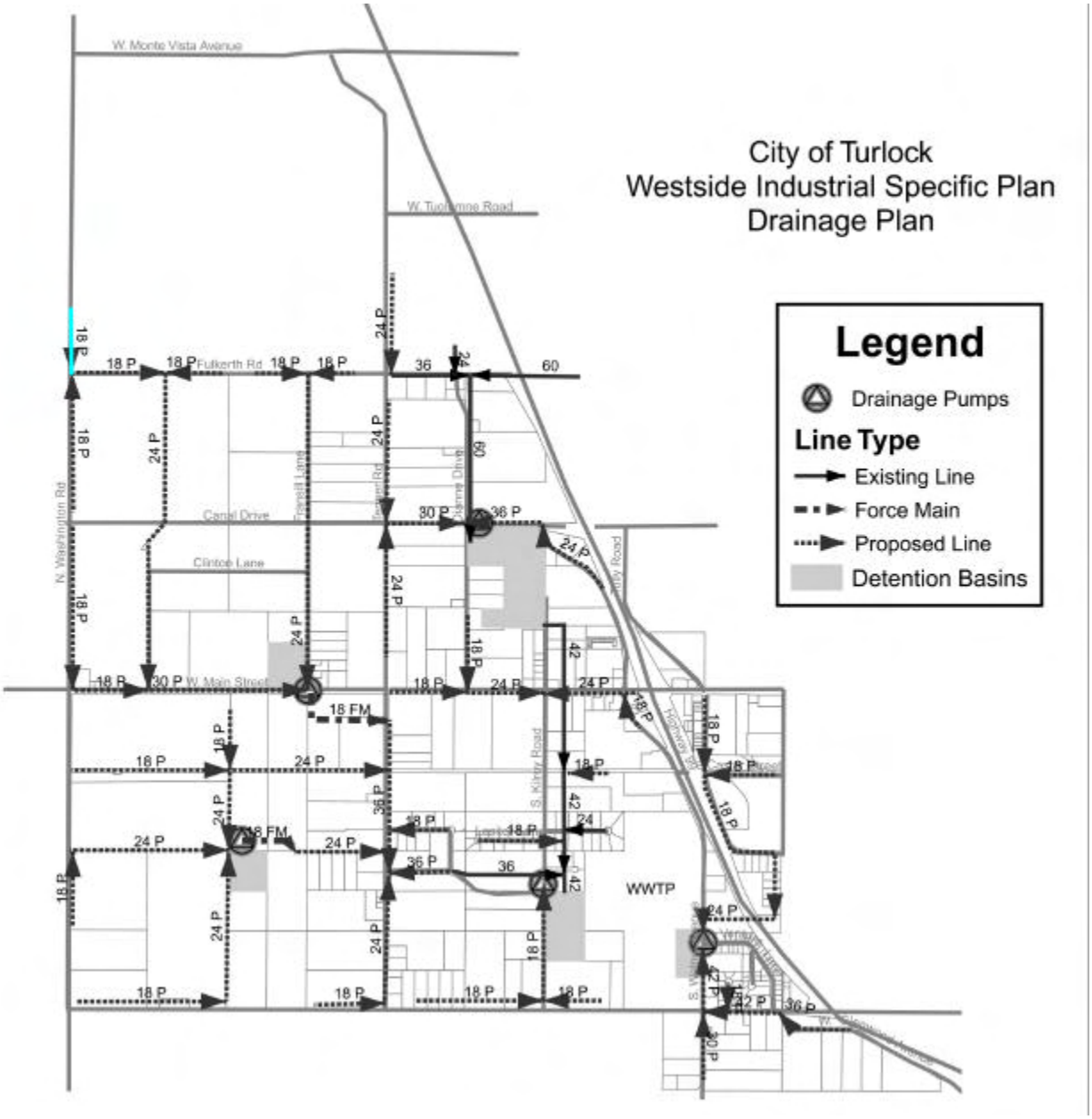
The storm water management plan assumes that a majority of the parcels west of Tegner Road would provide on-site storm water detention and development of properties east of Tegner Road would not.

The allowable outflow would be limited to the pre-development flow. This substantially reduces the drainage pipe size compared to only minimal on-site detention, significantly reducing development costs.

Existing Detention Pond #2 would need to accommodate 11-acre feet, and new pump stations would be added at Detention Ponds #2 and #3.

Figure 14-3

WISP Storm Drainage Master Plan



14.4 SOLID WASTE DISPOSAL

The City contracts with a franchise hauler to collect garbage and recyclables at curbside.

14.4.1 Existing Resources

Garbage is taken to the transfer station on Walnut Road in the Study Area, and from there to the Fink Road Landfill near Crow's Landing, or to the waste-to-energy facility adjacent to the Landfill. The waste-to-energy facility reduces the volume of waste going to the Landfill by about 90 percent.

Stanislaus County Department of Public Woks indicates that the landfill has capacity to serve until 2017 for garbage and 2023 for waste-to-energy ash. The total landfill capacity is 6.8 million tons, with plans for further expansion.

Source Reduction and Recycling Element (SRRE)

In accordance with Public Resources Code Section 41000 and 41300 *et seq*, (discussed below in Subsection 14.11.2 State Regulations, California Waste Management Board - CIWMB), each city and county in the State of California is required to prepare a Source Reduction and Recycling Element (SRRE) to meet waste diversion reduction goals.

The City of Turlock adopted its SRRE in 1994. The SRRE was later reviewed and approved by the CIWMB in 1995. The SRRE address source reduction, including recycling and composting activities for solid waste generated within the City.

County Hazardous Waste Management Plan (CHWMP)

The Stanislaus County Hazardous Waste Management Plan (CHWMP) was adopted by the City of Turlock in 1991. The CHWMP identifies industrially zoned sites potentially suitable for locating hazardous waste management facilities. This program is further discussed in Section 9, Hazardous Materials.

There are no hazardous waste facilities operating or planned within the Study Area.

14.4.2 WISP Project

Solid Waste Management Plan

The diversity of industrial, industrial-business professional, office, and commercial uses that may occur in the proposed WISP project indicates that most uses will be served by private commercial haulers contracting with the individual users.

14.5 PARKS AND RECREATION

14.5.1 Existing Resources

No public recreation facilities exist in the Study Area. Pedretti Park, located approximately ½ mile north of Fulkerth Road provides active sports facilities for the west side of the City.

14.5.2 WISP Project

The Study Area does not include a substantial residential population, but there are opportunities for active recreation that could serve the employees of the proposed WISP project and City of Turlock residents. Non-residential land uses are typically more tolerant of sports fields that are lighted at night. The detention basin at Dianne Drive and Canal Drive is well located to provide an active sports facility that is readily accessible by the employees in the WISP project, and City residents to the east of SR 99.

14.6 POLICE PROTECTION

14.6.1 Existing Resources

The City of Turlock Police Services Department provides a full service police department that will serve the development in the Study Area. A Service Mitigation Fee is levied on all new development for funding police operations and maintenance.

14.7 FIRE PROTECTION

14.7.1 Existing Resources

Fire protection in the Study Area is provided by the Turlock Rural Fire Protection District in the unincorporated area and the Turlock City Emergency in the city. Turlock City Emergency Services operates four facilities. Station No. 2, located on Walnut Avenue near SR 99 within the Study Area would provide first response to any fire or emergency. No additional fire protection facilities are required in the Study Area.

A Service Mitigation Fee is levied on all new development for funding fire operations and maintenance.

Annexation of land to the city will involve a concurrent reorganization of the boundary between the City of Turlock and the Turlock Rural Fire Protection District.

14.8 NATURAL GAS AND ELECTRICITY

14.8.1 Existing Resources

The Turlock Irrigation District (TID) provides electricity in the Study Area through a local distribution grid. The grid generally follows the primary streets and is sized to serve the local needs. There are no transmission facilities in the Study Area.

Natural Gas is supplied by the Pacific Gas and Electric Company, Inc. (PG&E), a private corporation. PG&E currently owns and operates natural gas infrastructure within Turlock.

14.8.2 WISP Project

The Turlock Irrigation District (TID) is planning a major new electricity generating facility with the Study Area. The Walnut Energy Center, a 250 mgw plant fueled with natural gas, will be located south of the rail spur just east of Washington Road.

14.9 REGULATORY SETTING

14.9.1 Federal Regulation

Federal Energy Regulatory Commission (FERC)

The Federal Energy Regulatory Commission (FERC) regulates the construction of the interstate natural gas pipelines that serve California.

14.9.2 State Regulation

Solid Waste Management: California Integrated Waste Management Board

(CIWMB)

The California Integrated Waste Management Act became law on January 1, 1990. This law mandates that every county and city divert twenty-five percent (25%) of its waste from landfills by 1995 and fifty percent (50%) by 2000, or face fines of $10,000 per day. The California Integrated Waste Management Board (CIWMB), administering this Law, requires each city and county to prepare an Integrated Waste Management Plan (IWMP). The IWMP must include a

Source Reduction and Recycling Element (SRRE) and a Household Hazardous Waste Element (HHWE).

Fire Protection: California Occupational Safety and Health Administration (Cal/OHSA)

The California Occupational Safety and Health Administration (Cal/OHSA) requires for presence of a minimum of four firefighters before the use of respirators, which are required for entry into an enclosed space filled with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. Therefore, a minimum of four (4) firefighters are required in order to respond to most fire incidents.

California Public Utilities Commission (CPUC)

Electricity: The California Public Utilities Commission (CPUC) has permitting authority over the construction of new and expanded power plants, electric transmission lines and substations. Pursuant to CEQA, environmental analyses must be conducted before issuance of construction permits by CPUC. The CPUC Utilities Safety Branch audits utility overhead and underground electric facilities through random field inspections.

Natural Gas: The CPUC regulates local natural gas distribution facilities and services, as well as intrastate pipelines. CPUC published the California Natural Gas Infrastructure Outlook 2002-2206 Report, which concluded that PG&E's natural gas infrastructure would be sufficient through the year 2006.

California Energy Commission (CEC)

The California Energy Commission (CEC) has the statutory authority to site and license thermal power plants that are rated at 50 megawatts and larger and related transmission lines, fuel supply lines and other facilities. Pursuant to CEQA, environmental analyses are required prior to the issuance of energy facility licenses.

14.10 CITY OF TURLOCK

14.10.1 Landscape Water Conservation and Irrigation Guidelines

The City adopted the Landscape Water Conservation and Irrigation Guidelines in 1991 with the aim to reduce the current share (approximately 50 % of the total) of water use for commercial and residential landscaping.

14.11 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, Appendix G, a project would have a significant impact on the environment if it would:

1. Have insufficient water supplies available to serve the project from existing entitlements and resources, requiring expanded entitlements.

2. Require or result in the construction of new water or water quality control facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

3. Result in a determination by the water quality control provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4. Exceed water quality requirements of the Regional Water Quality Control Board.

5. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effect.

6. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

7. Be in noncompliance with federal, state, and local statutes and regulations related to solid waste.

8. Result in substantial adverse physical impacts associated with the provision of new or altered government 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 including schools, parks, police protection, or fire protection.

Domestic water and water quality regulation by the Regional Water Quality Control Board (RWQCB) is further discussed in Hydrology and Water Quality, Section 10 of this EIR.

14.12 IMPACTS AND MITIGATION

POTENTIAL IMPACT PFS-1: **The Westside Industrial Specific Plan (WISP) would create a demand for domestic water beyond current entitlements, resulting in significant adverse effects upon the environment.**

Level of Significance: **Potentially Significant**

Water demand will increase with the planned increase in industrial, commercial and business uses. The level of demand cannot be precisely predicted due to the variability of water demand in industrial uses. Water conservation, including the potential to use recycled water for

landscape irrigation, could reduce the level of demand created by the implementation of the WISP project.

Mitigation Measures:

PFS-1.1: Implement innovative technologies for communications, **water** and energy **conservation** in site design and building architecture. (Westside Industrial Specific Plan Land Use Objective 7)

PFS-1.2: New infrastructure systems shall be designed with consideration of life-cycle costs, and shall be innovative in **conserving and recycling water** and energy. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-37)

PFS-1.3: Encourage water conservation in industrial processes by making reclaimed water available for cooling, and other industrial use in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-38)

PFS-1.4: Consider the feasibility of the extension of reclaimed water distribution systems where new sewer and water lines are being constructed in the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-39)

PFS-1.5: Encourage potable water conservation in site landscaping and streetscape landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-40)

PFS-1.6: Project proponents shall comply with the requirements of the 1991Landscape Water Conservation and Irrigation Guidelines, as amended.

PFS-1.7: The City shall require, as a condition of project approval, dedication of land and easements, or payment of appropriate fees and exactions, to help offset municipal costs of expansion of water treatment facilities and delivery systems.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above mitigation measures will help to reduce the domestic water demand created by the implementation of the proposed WISP project.

POTENTIAL IMPACT PFS-2: The Westside Industrial Specific Plan (WISP) would create a demand for wastewater (sewer) treatment beyond capacity of current facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-2.1: Industrial uses that require water for processing or cooling shall submit a water budget to the Municipal Services. The water budget shall indicate the total water demand, the quality of the water, and the opportunities for water re-use and water conservation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-41)

PFS-2.2: Septic tanks are prohibited in the Plan Area with the following exceptions:

- Existing single family dwellings
- Interim industrial uses pending completion of the municipal wastewater collection system. Such interim uses may not extend beyond two years. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-42)

PFS-2.3: The City will promote reduced water system demand through efficient water use by:

- Requiring water conserving design and equipment in new construction;
- Encouraging retrofitting with water conserving devices; and
- Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible.

PFS-2.4: Business Park and other industrial uses shall provide an evaluation of opportunities for an industrial pretreatment program in accordance with California State and federal requirements.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above mitigation measures will help ensure that the wastewater treatment demands for implementation of the WISP project will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-3: The Westside Industrial Specific Plan (WISP) project would create a demand for storm water drainage beyond capacity of current facilities, resulting in significant adverse effects upon the environment.

Level of Significance: Potentially Significant

The WISP includes expansion of storm drainage collection systems, on-site detention basins and expansion of existing storm water detention and pumping facilities designed to accommodate the proposed development.

Mitigation Measures:

PFS-3.1: Storm water management (and detention basins where necessary) shall be included in the site design for each development. (Westside Industrial Specific Plan Urban Design Policy UD-P-1)

PFS-3.2: Parking areas and driveways may be used for storm water detention. (Westside Industrial Specific Plan Urban Design Policy UD-P-4)

PFS-3.3: The City shall design the Dianne Drive Detention basin for joint open space/recreation and storm water management use. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-43)

PFS-3.4: On-site storm water detention shall be provided on any site larger than two acres, and shall be designed for future connection to the City's storm water drainage system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-44)

PFS-3.5: The incorporation of grassy swales and other best management practices are encouraged to filter storm water (Westside Industrial Specific Plan Urban Design Policy UD-P-3; Infrastructure and Services Policy I-P-46)

PFS-3.6: Site grading shall be designed to create positive drainage throughout the site and to collect the storm water for the storm water drainage system. (Westside Industrial Specific Plan Urban Design Standard DS 1; Infrastructure and Services Policy I-P-47)

PFS-3.7: Water quality swales shall be landscaped with appropriate erosion control plant materials. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-48)

PFS-3.8: The City shall require the dedication and improvement of drainage detention basins as a condition of development approval according to the 1988 Storm Drain Master Plan. The responsibility for the dedication and improvement of detention basins shall be based on the prorated share of storm water runoff resulting from each development.

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above mitigation measures will help ensure that the storm water drainage demands for implementation of the WISP project will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-4: **The Westside Industrial Specific Plan (WISP) would create a demand for solid waste services beyond the capacity of current landfill facilities, resulting in significant adverse effects upon the environment.**

Level of Significance: **Less Than Significant**

The Stanislaus County Department of Public Works indicates that the Fink Road Landfill has capacity to serve until 2017 for garbage and 2023 for waste-to-energy ash. The total landfill capacity is 6.8 million tons, with plans for further expansion.

The following mitigation measure will help prevent a demand beyond solid waste services capacity in the future:

Mitigation Measures:

PFS-4.1: The City will encourage industrial development that utilizes solid waste material for recycling or co-generation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-50)

POTENTIAL IMPACT PFS-5: **The Westside Industrial Specific Plan (WISP) would not comply with statutes and regulations related to solid waste.**

The City of Turlock has a California Integrated Waste Management Board-approved Source Reduction and Recycling Element (SRRE), which was adopted in 1994. The SRRE was later reviewed and approved by the CIWMB in 1995. The SRRE address source reduction, including recycling and composting activities for solid waste generated within the City.

Level of Significance: **Less Than Significant**

POTENTIAL IMPACT PFS-6: **Implementation of the Westside Industrial Specific Plan (WISP) would require additional facilities and Level of Service (LOS) for police protection, fire protection, and parks.**

<u>Police and Fire Protection</u>:

The existing Station No. 2, located on Walnut Avenue near SR 99 within the Study Area, would provide first response to any fire or emergency. No additional fire protection facilities are required in the Study Area. Police service demands will increase with the increase in development.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-6.1: All new development is required to meet the fire protection standards established by the City. Typical standards include, but are not limited to:

- Sprinklers in buildings 5,000 square feet and larger;
- On-site hydrants;
- Adequate emergency access to buildings;
- Hazardous materials plans.

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-62)

PFS-6.2: All new development shall participate in the City's service mitigation fee that funds police, fire and public maintenance services operations and maintenance costs. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-63)

Parks and Recreation:

There are no existing public recreation facilities within the Study Area.

The Study Area does not include a substantial number of residents, and the WISP project proposes only non-residential uses. However, the detention basin at Dianne Drive and Canal Drive provides the possible opportunity for an active sport facility for the WISP project employees and the City residents to the east of SR 99.

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-6.3: The detention basin at Dianne Drive and Canal Drive will be designed to allow for future improvement as a recreation facility. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-64)

PFS-6.4: The portion of any industrial, industrial-business professional, office or commercial site allocated specifically to basketball courts, picnic areas, and

similar employee oriented recreation facilities shall be included in the landscape area requirement for that use, provided that the landscape facility is fully improved with landscaping. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-65)

Residual Level of Significance: Less than Significant with Mitigation

Implementation of the above mitigation measures will help ensure that police protection, fire protection, and parks and recreation demands for implementation of the WISP project will be met without substantial adverse effects upon the environment.

POTENTIAL IMPACT PFS-7: The Westside Industrial Specific Plan (WISP) would require expanded energy sources and infrastructure for expanded urban development.

Electrical services are provided to the Study Area by the Turlock Irrigation District (TID) through a local distribution grid. There are currently no major transmission facilities through the Study Area. TID is planning a major new electricity generating facility, the Walnut Energy Center, a 250 mgw plant fueled with natural gas, located south of the rail spur just east of Washington Road in the Plan Area.

Power plants, substations, and transmission lines, and natural gas transmission lines are approved by a combination of agencies, including FERC, CPUC, and CEC (discussed in Subsection 4.2 above).

Level of Significance: Potentially Significant

Mitigation Measures:

PFS-7.1: Maintain coordination between land development and expansion of public utilities and streets to ensure that utilities are available in a timely manner. (Westside Industrial Specific Plan Land Use Objective 6)

PFS-7.2: Implement innovative technologies for communications, water and **energy conservation** in site design and building architecture. (Westside Industrial Specific Plan Land Use Objective 7)

PFS-7.3: Passive solar design is encouraged whenever possible. Design of buildings shall demonstrate consideration of energy-efficient concepts such as natural heating and/or cooling, sun and wind exposure and orientation, and other solar energy opportunities. (Westside Industrial Specific Plan Urban Design Policy UD-P-7)

PFS-7.4: Life-cycle costs of buildings shall be considered in the design of all buildings. (Westside Industrial Specific Plan Urban Design Policy UD-P-8)

PFS-7.5: Use of wind and thermal mass to heat and cool structures and public spaces shall be considered in the design of all buildings. (Westside Industrial Specific Plan Urban Design Policy UD-P-9)

PFS-7.6: Application of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System is encouraged. (Westside Industrial Specific Plan Urban Design Policy UD-P-10)

PFS-7.7: Buildings adjoining public spaces, such as along a pedestrian promenade, shall be designed to provide sun to walkways and primary gathering areas in the winter. (Westside Industrial Specific Plan Urban Design Standard DS 4.)

PFS-7.8: Sun shade structures such as building overhangs, verandas, trellises and porticoes shall be incorporated in the design of all buildings at the primary entry and pedestrian approaches to all buildings. (Westside Industrial Specific Plan Urban Design Standard DS 5)

PFS-7.9: New infrastructure systems shall be designed with consideration of life-cycle costs, and shall be innovative in **conserving** and recycling water and **energy**. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-37)

PFS-7.10: The City will work with TID to ensure that the local electricity distribution grid is in place in a timely manner to serve new users. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-51)

PFS-7.11: The City will encourage the use of energy conserving design in landscaping and architecture to reduce building heating and cooling loads. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-52)

PFS-7.12: Employ energy efficient design, including automated control systems for heating/air conditioning and energy efficiency beyond Title 24 requirements, lighting controls and energy-efficient lighting in buildings, increased insulation beyond title 24 requirements, and light colored roof materials to reflect heat. (Westside Industrial Specific Plan Resources Policy R-P-22)

PFS-7.13: Plant deciduous trees on the south- and west-facing sides of buildings. (Westside Industrial Specific Plan Resources Policy R-P-23)

Residual Level of Significance: Significant and Unavoidable

The need for expanded energy sources and infrastructure is a significant impact with expanded urban development. Included in the above mitigation measures are procedures that will help reduce the amount of energy and infrastructure needed to serve new urban development in the WISP Study Area, but not to a less-than-significant level.

15. TRAFFIC AND CIRCULATION

This section is based upon and incorporates a traffic analysis report authored by Omni-Means, entitled "City of Turlock Westside Industrial Specific Plan Traffic Study" June 2003. This report is included as Appendix I in Volume 2, Technical Appendix. The traffic study for the WISP provides a "planning level" evaluation of traffic operating conditions, and is considered sufficient for CEQA/NEPA purposes.

15.1 ANALYSIS METHODOLOGY

Operations of the Study Area intersections were evaluated using level of service (LOS) calculations. Level of service criteria are discussed below.

15.1.1 Level of Service Methodology

Traffic operations were quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations.

Omni-Means calculated Levels of Service for all intersection control types using methods documented in the Transportation Research Board (TRB) publication *Highway Capacity Manual, Fourth Edition, 2000* (HCM-2000). The peak hour delay based LOS criteria for different types of intersection control are outlined in Table 15-1. The average daily traffic (ADT) based roadway segment LOS thresholds are presented in Table 15-2.

In this study, the HCM-2000 recommended default Peak Hour Factor (PHF) of 0.92 has been applied at all study intersections under all analysis scenarios. The HCM-recommended suburban traffic signal default cycle length of 100 seconds has been used for signalized intersections analysis, with 4 seconds of "lost time" per critical signal phase. For study intersections, a heavy truck percentage of 5% was used for individual intersection approaches under AM and PM peak hour periods. The *Traffix 7.5* (Dowling and Associates) integrated computer software program was applied to implement HCM-2000 analysis methodologies. However, "design level" evaluations, which include queuing on intersection lane groups, stacking length requirements, and coordinated signal operations analyses etc., were not included in the traffic study.

The Caltrans published *Guide for the Preparation of Traffic Impact Studies* (dated June 2001) states the following:

> *"Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities…"*

The City of Turlock General Plan 1992-2012 (Reviewed 2002), Transportation Element, Traffic Analysis-Implementing Policies, relating to Level of Service are partly quoted below.

Guiding Policy 5.1-c	Strive to maintain LOS C for all freeways and expressways. Level of Service shall be evaluated on the basis of either the Highway

	Capacity Manual, or other means approved by the City's Engineering Division of Municipal Services.
Guiding Policy 5.1-d	Approve LOS D as an allowable standard for arterial and collector streets where existing conditions limit improvements.

Consistent with City and Caltrans policies stated above, for the purposes of this EIR, LOS "C" has been taken as the minimum acceptable LOS standard at critical study intersections and roadway segments falling with City right-of-way. For freeway ramp intersections and other intersections and roadway segments falling within State right-of-way, consistent with Caltrans policy of "LOS C/D transition", a "low LOS D" (which is regarded as LOS "D" with delay values closer to LOS "C" than towards LOS "E") is taken as the minimum threshold for acceptable operations. Appropriate circulation, capacity or and/or control improvements are identified for instances when Study Area facilities are projected to operate below acceptable standards.

Furthermore, in order to determine whether "significance" should be associated with unsignalized intersection turning volumes, a supplemental traffic signal "warrant" analysis was also completed. This study employs the signal warrant criteria presented in the *Caltrans' Traffic Manual.* Specifically, this study utilized the Peak-Hour-Volume based Warrant 11 (Urban Areas) as one representative type of warrant analysis.

Table 15-1

Signalized Intersection LOS Criteria

Level of Service	Delay Characteristics	Average Control Delay (Seconds)
A	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	$\leq$ 10.0
B	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0

E	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to capacity ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	Generally considered unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	> 80.0

Source: Transportation Research Board Highway Capacity Manual, 2000.

Table 15-2

Level of Service (LOS) Criteria for Roadway Segments

Road Segment Type	Total Two-way Average Daily Traffic (ADT)				
	LOS "A"	LOS "B"	LOS "C"	LOS "D"	LOS "E"
6-Lane Divided Freeway	42,000	64,800	92,400	111,600	120,000
4-Lane Divided Freeway	28,000	43,200	61,600	74,400	80,000
2-Lane Rural Highway	2,400	4,800	7,900	13,500	22,900
6-Lane Divided Expressway (with left turn lane)	35,500	42,200	46,200	55,800	60,000
6-Lane Divided Arterial (with left turn lane)	32,000	38,000	43,000	49,000	54,000
4-Lane Divided Arterial (with left turn lane)	22,000	25,000	29,000	32,500	36,000
4-Lane Undivided Arterial (no left turn lane)	18,000	21,000	24,000	27,000	30,000
with left turn lane)	11,000	12,500	14,500	16,000	18,000
2-Lane Arterial (no left turn lane)	9,000	10,500	12,000	13,500	15,000
2-Lane Collector/Local Street	6,000	7,500	9,000	10,500	12,000

Note: *1. Based on "Highway Capacity Manual" Transportation Research Board, 2000.*

2. All volumes are approximate and assume ideal roadway characteristics. Actual threshold volumes for each Level of Service listed above may vary depending on a variety of factors including, (but not limited to) roadway curvature and grade, intersection or interchange spacing, driveway spacing, percentage of trucks and other heavy vehicles, travel lane widths, signal timing characteristics, on-street parking, volume of cross traffic and pedestrians, etc.

15.2 EXISTING CONDITIONS

The Turlock General Plan establishes the alignment and configuration of all primary roads in and around the Study Area. Continuation of the existing road pattern will provide sufficient circulation to the major land areas in the Study Area.

15.2.1 Existing Study Area Roadways

Existing roadway segment operations were quantified utilizing the LOS thresholds indicated in Table 15-1. The resulting ADT-based LOS estimates for critical study roadway segments are presented in Table 15-3.

Table 15-3

Existing Roadway Segments

Roadway	Segment	Existing Configuration	Average Daily Traffic (ADT)	Level of Service
Fulkerth Road	Washington Road and Tegner Road	2-Lane Arterial	4,320	A
Fulkerth Road	Tegner Road and Dianne Drive	2-Lane Arterial	4,720	A
Fulkerth Road	Dianne Drive and SR 99 I/C	4-Lane Arterial	7,490	A
West Main Street	Washington Road and Tegner Road	2-Lane Arterial	7,300	A
West Main Street	Tegner Road and S. Walnut Road	2-Lane Arterial	12,430	A
West Main Street	S. Walnut road and SR 99 I/C	5-Lane Arterial	15,020	A
W. Linwood Ave.	S. Tegner Road and S. Walnut Road	2-Lane Arterial	2,050	A
Washington Road	Fulkerth Road and West Main Street	2-Lane Arterial	2,370	A
Tegner Road	West Main St. and W. Linwood Ave.	2-Lane Collector	2,380	A

Source: City of Turlock Westside Industrial Specific Plan Traffic Circulation Study, Omni-Means, June 2003

15.2.2 Intersections

Existing AM and PM peak hour intersection traffic operations were quantified applying intersection lane geometrics and control and existing traffic volumes. Table 15-4 presents the existing AM and PM peak hour intersection Levels of Service.

Table 15-4

Existing Study Area Intersections

			AM Peak Hour			PM Peak Hour		
	Intersection	Control Type	Delay (Sec/veh)	LOS	Warrant Met?	Delay (Sec/veh)	LOS	Warrant Met?
1	SR 99 NB Ramps/Fulkerth road	TWSC	12.9	B	No	52.1	F	No
2	SR 99 SB Ramps/Fulkerth Road	Signal	22.9	C	-	27.8	C	-
3	SR 99 NB Ramps/West Main Street	Signal	23.3	C	-	20.2	C	-
4	SR 99 SB Ramps/West Main Street	Signal	24.3	C	-	24.5	C	-
5	Fulkerth Road/North Tegner Road	TWSC	9.8	A	No	12.6	B	No
6	Fulkerth Road/Dianne Drive	TWSC	10.1	B	No	10.5	B	No
7	Fulkerth Road/Tully Road	Signal	27.8	C	-	39.9	D	-
8	Fulkerth Road/Golden State Boulevard	Signal	29.3	C	-	32.6	C	-
9	West Canal Drive/Tully Road	AWSC	9.7	A	No	11.5	B	No
10	West Canal Drive/Golden State Boulevard	Signal	26.4	C	-	29.2	C	-
11	West Main Street/North Washington Road	AWSC	10.4	B	No	16.8	C	No
12	West Main Street/South Tegner Road	TWSC	12.9	B	No	15.5	C	No
13	West Main Street/South Walnut Road	Signal	23.1	C	-	21.9	C	-
14	West Main Street/Tully Road	Signal	26.8	C	-	27.0	C	-
15	West Main Street/Lander Avenue	Signal	28.0	C	-	32.2	C	-
16	West Linwood Avenue/S. Walnut Avenue	AWSC	9.7	A	No	10.1	B	No
17	West Linwood Avenue/Lander Avenue	Signal	24.3	C	-	22.5	C	-
18	West Glenwood Avenue/Lander Avenue	Signal	14.5	B	-	15.2	B	-
19	Fulkerth Road/Washington Road	AWSC	9.5	A	No	10.1	B	No
20	West Linwood Avenue/Tegner Road	AWSC	7.6	A	No	8.0	A	No

TWSC = Two-way-stop Control AWSC = All-way-stop Control
Average Delay = Average Intersection Delay (and corresponding LOS) for Signalized and AWSC Intersections
Average Delay = Worst-case Intersection Movement Delay (and corresp9onding LOS) for TWSC Intersections
Warrant = Caltrans Peak-Hour Volume Signal Warrant -11 (Urban Areas)

15.3 TIME HORIZON FOR THE TRAFFIC ANALYSIS

Year 2025 is regarded as the "cumulative analysis year" in this study, consistent with the long-range planning horizon year for the updated Turlock Citywide traffic model as well as the StanCOG's regional traffic model. The Year 2025 traffic volumes were forecasted utilizing the updated Citywide Traffic Model which considers full buildout of the City's current General Plan (1992-2012) and some additional development on "urban reserve" lands through year 2025.

"Year 2025 Base" traffic forecasts, which represent year 2025 traffic conditions with the currently vacant lands within the WISP area assumed to remain undeveloped through year 2025, were forecasted utilizing the updated Citywide traffic model. The model-forecasted year 2025 base intersection and roadway segment traffic volumes were further refined/adjusted based on current traffic flow patterns and intersection turning movement traffic volumes. At the study intersections, in general, no capacity or control improvements over existing conditions have been assumed to in place under Year 2025 Base conditions.

15.4 PROPOSED PLAN TRAFFIC IMPROVEMENTS

The "Year 2025 base plus project" conditions refer to the long-term, full buildout of the Westside Industrial Plan per the proposed Specific Plan land uses. As such, the recommended improvements in the Specific Plan and summarized in this section may be regarded as the ultimate long-term improvements that are recommended to be in place within the WISP area and its vicinity.

The primary new road improvements in the Study Area include:

- Extension of Tegner Road between Fulkerth Road and West Main Street.

The extension of Tegner Road will create a new arterial that will become the central north-south circulation in the Plan Area.

- Washington Road will be designated as Washington Expressway between Keyes Road and W. Harding Road to provide primary truck and employee vehicle access from SR 99 on the west side of the Plan Area.
- West Tuolumne Road will be extended over SR 99 to provide four travel lanes plus Class II bike lanes linking the Plan Area to the residential area.
- Extension of West Canal Drive to Washington Road.
- Realignment of Dianne Drive to align with Automall Drive at Fulkerth Road.

The Specific Plan includes the improved road segments shown in Figure 15-1 and 15-5.

Table 15-5

Future Study Area Road Improvements

Source: City of Turlock Westside Industrial Specific Plan Traffic Circulation Study, Omni-Means, June 2003

Roadway	Segment	Existing Configuration	Planned Configuration
Fulkerth Road	Washington Road and Tegner Road	2-Lane Arterial	4-Lane Arterial
Fulkerth Road	Tegner Road and Dianne Drive	2-Lane Arterial	4-Lane Arterial
Fulkerth Road	Dianne Drive and SR 99 I/C	4-Lane Arterial	5-Lane Arterial
West Main Street	Washington Road and Tegner Road	2-Lane Arterial	4-Lane Arterial
West Main Street	Tegner Road and S. Walnut Road	2-Lane Arterial	6-Lane Arterial
West Main Street	S. Walnut road and SR 99 I/C	5-Lane Arterial	6-Lane Arterial
West Canal Drive	Walnut Road and Tegner Road	2-Lane Collector	2-Lane Collector
West Canal Drive	Tegner Road and Washington Road	2-Lane Collector	2-Lane Collector
W. Linwood Ave.	S. Tegner Road and S. Walnut Road	2-Lane Arterial	3-Lane Arterial
W. Linwood Ave.	S. Walnut road and Lander Avenue	2-Lane Arterial	3-Lane Arterial
Washington Road	Fulkerth Road and West Main Street	2-Lane Arterial	4-Lane Arterial
Tegner Road	Fulkerth Road and West Main Street	None	2-Lane Collector
Tegner Road	West Main St. and W. Linwood Ave.	2-Lane Collector	3-Lane Arterial
Tuolumne Road	Overcrossing over SR 99	None	2- Lane Collector

Figure 15-1

Planned Road Segment Improvements

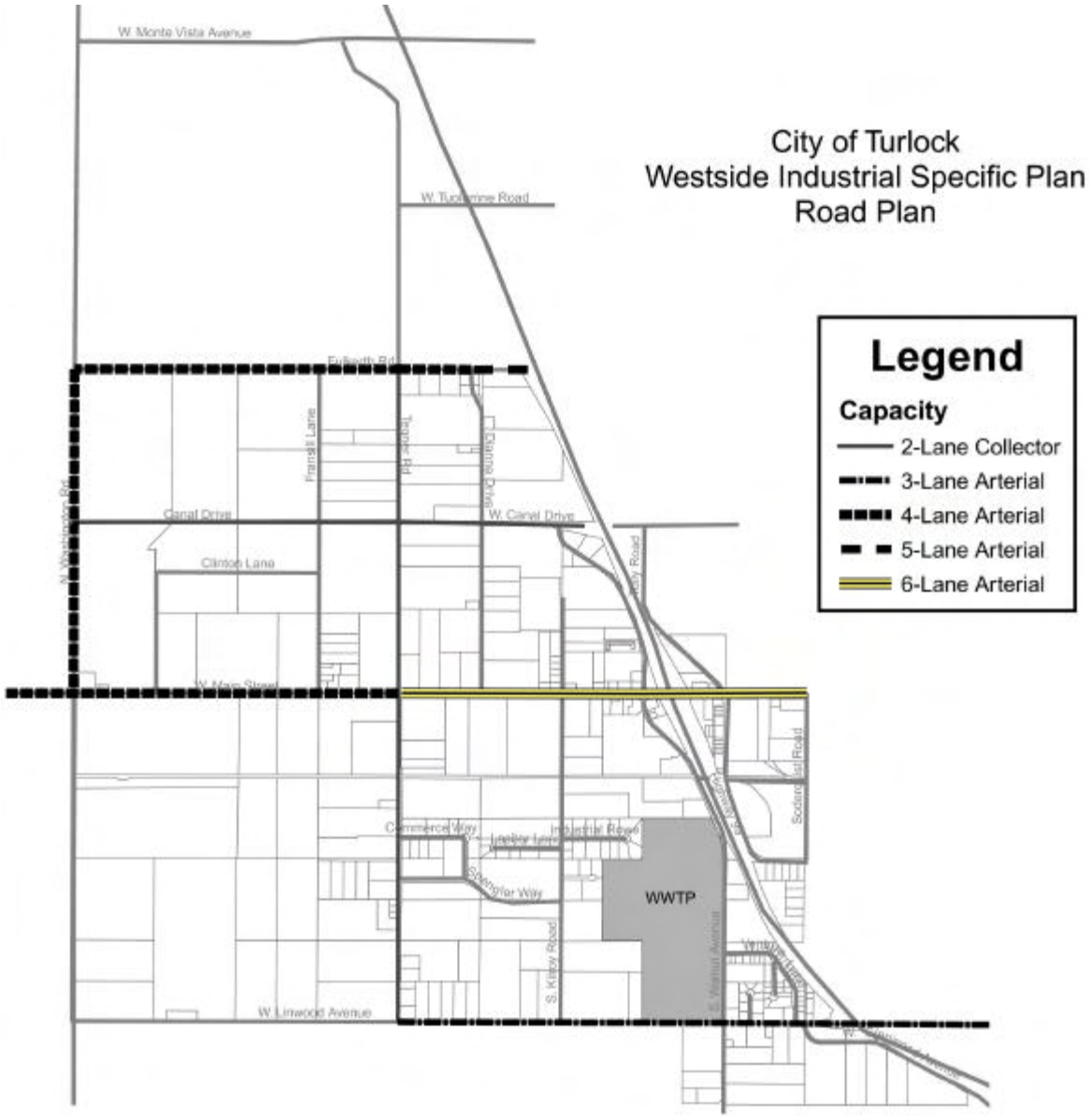


Table 15-6

Future Study Area Intersection Improvements

Intersections	Northbound Approach	Eastbound Approach	Southbound Approach	Westbound Approach
SR 99 NB Ramps/Fulkerth road	1 Left 1 Through-Right 1 Right	2-Left 2-Through		2-Through 1-Free-right
SR 99 SB Ramps/Fulkerth Road		2-Through 1-Right	1-Left 1-Shared Left - Through 1-Free Right	2-Left 2-Through
SR 99 NB Ramps/West Main Street	2-Left 1-Right	2-Left 2-Through		2-Through 2-Right
SR 99 SB Ramps/West Main Street		4-Through 1-Free-Right	2-Left 2-Right	1-Left 2-Through
Fulkerth Road/North Tegner Road	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right
Fulkerth Road/Dianne Drive	1-Left 1-Right	1-Through 1-Shared-Through-Right		1-Left 2-Through
Fulkerth Road/Tully Road	2-Left 1-Through 1-Right	2-Left 2-Through 1-Right	2-Left 1-Through 1-Right	2-Left 2-Through 1-Right
Fulkerth Road/Golden State Boulevard	2-Left 3-Through 1-Right	2-Left 2-Through 1-Right	2-Left 3-Through 1-Right	2-Left 2-Through 1-Right
West Canal Drive/Tully Road	1-Left 1-Through 1-Right	2-Left 1-Through 1-Right	1-Left 1-Through 1-Right	1-Left 1-Through 2-Right
West Main Street/North Washington Road	1-Left 2-Through 1-Right	1-Left 1-Through 1-Right	1-Left 2-Through 1-Right	1-Left 1-Through 1-Right
West Main Street/South Tegner Road	1-Left 1-Through 1-Free-Right	1-Left 1-Through 1-Shared-Right	1-Left 1-Through 1-Right	2-Left 1-Through 1-Shared-Right
West Main Street/South Walnut Road	1-Left 1-Through 1-Free-Right	1-Left 2-Through 1-Right	2-Left 1-Through 1-Right	2-Left 2-Through 1-Right
West Main Street/South Tegner Road	1-Left 1-Through 1-Free-Right	1-Left 1-Through 1-Shared-Right	1-Left 1-Through 1-Right	2-Left 1-Through 1-Shared-Right
West Main Street/South Walnut Road	1-Left 1-Through 1-Free-Right	1-Left 2-Through 1-Right	2-Left 1-Through 1-Right	2-Left 2-Through 1-Right

Table 15-6 (Continued)

Future Study Area Intersections

Intersections	Northbound Approach	Eastbound Approach	Southbound Approach	Westbound Approach
West Main Street/Tully Road	2-Left 1-Shared-Through-Right	1-Left 2-Through 1-Right	1-Left 1-Through 1-Right	2-Left 1-Through 1-Shared-Through-Right
West Main Street/Lander Avenue	1-Left 1-Through 1-Shared-Through-Right	1-Left 1-Through 1-Shared-Through-Right	1-Left 2-Through 1-Right	1-Left 1-Through 1-Shared-Through-Right
West Linwood Avenue/S. Walnut Avenue	1-Left 1-Through 1-Right	1-Left 2-Through 1-Right	1-Left 1-Through 1-Right	1-Left 2-Through 1-Right
West Linwood Avenue/Lander Avenue	2-Left 2-Through 1-Right	2-Left 1-Through 1-Right	2-Left 2-Through 1-Right	2-Left 1-Through 1-Right
Fulkerth Road/Washington Road	1-Left 1-Through 1-Right	1-Left 1-Shared-Through-Right	1-Left 1-Through 1-Right	1-Left 1-Shared-Through-Right
West Linwood Avenue/Tegner Road	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right	1-Left 1-Shared-Through-Right

Source: City of Turlock Westside Industrial Specific Plan Traffic Circulation Study, Omni-Means, June 2003

15.5 REGULATORY SETTING

15.5.1 State of California, California Department of Transportation (Caltrans)

Caltrans evaluates the quality of traffic operating conditions on State facilities with regard to existing operations, and to "concept" Levels of Service considering projected 20 year traffic conditions. These are defined in the "Route Concept Report" (RCR) for each highway.

The RCR is a planning document that expresses the Caltrans' judgment on what the characteristics of the State highway should be in order to respond to the projected travel demand over the 20-year planning period. The RCR contains Caltrans' goal for the development of each route in terms of Level of Service, and broadly identifies the nature and extent of improvements needed to reach these goals. The RCR then provides the basis for the preparation of route development plans and system analysis for use in identifying funding.

15.5.2 Stanislaus County Council of Governments

The Stanislaus Council of Governments provides transportation demand management planning, commuter matching and marketing services for Stanislaus County.

15.5.3 City of Turlock General Plan

The City of Turlock General Plan 1992-2012 (Reviewed 2002), Transportation Element, Traffic Analysis-Implementing Policies, are partly quoted below.

Guiding Policy 5.1-b	Maintain acceptable service standards for all major streets and intersections.
Guiding Policy 5.1-c	Strive to maintain LOS C for all freeways and expressways. Level of Service shall be evaluated on the basis of either the Highway Capacity Manual, or other means approved by the City's Engineering Division of Municipal Services.
Guiding Policy 5.1-d	Approve LOS D as an allowable standard for arterial and collector streets where existing conditions limit improvements.
Guiding Policy 5.2-d	Coordinate local actions with State and County agencies to ensure consistency between local and regional actions, including but not limited to the Regional Transportation Plan, Regional Expressway Study, Regional Transit Plan, and Regional Bicycle Action Plan.
Guiding Policy 5.4-c	Provide safe and direct pedestrian routes and bikeways between places.
Implementing Policy 5.1-c	Strive to maintain LOS C for all freeways and expressways.
Implementing Policy 5.1-d	Approve LOS D as an allowable standard for arterial and collector streets where existing conditions limit improvements.
Implementing Policy 5.1-g	Continue to identify streets and intersections with unacceptable levels of service and implement a program to upgrade them.
Implementing Policy 5.2-z	In reviewing designs of proposed developments, ensure that provision is made for access to current and future public transit services. In particular, pedestrian access to arterial and collector streets from subdivisions should not be impeded by continuous segments of sound walls.
Implementing Policy 5.6-d	Continue industrial expansion so as to minimize the neighborhood impacts of truck movements. Areas designated for industrial expansion in the Plan are to the west of Highway 99, which will continue to serve as a buffer between residential and industrial areas.

15.6 IMPACT EVALUATION CRITERIA

In accordance with CEQA Guidelines, the proposed project would have a significant adverse impact on the environment if the project would:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designed roads or highways.

c) 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.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

e) Result in inadequate emergency access.

f) Result in inadequate parking capacity.

g) Conflict with adopted policies, plans, or programs supporting alternate transportation (e.g., bus turnouts, bicycle racks).

15.7 IMPACTS AND MITIGATION

POTENTIAL IMPACT TC-1: **The proposed Westside Industrial Specific Plan (WISP) would cause an increase in traffic which exceeds existing traffic load and street system capacity, including intersections.**

Level of Significance: **Potentially Significant**

The traffic facility improvements and policies included in the Westside Industrial Specific Plan will partially mitigate the potential traffic impacts.

Table 15-7 summarizes the LOS for each major roadway segment in the Year 2025 Base Plus Project Condition.

Table 15-8 summarizes the LOS for each major intersection in the Study Area in the Year 2025 Base Plus Project Condition.

Table 15-7

Year 2025 Base Plus Project Conditions: Mitigated Roadway Levels of Service

Roadway	Segment	Average Daily Traffic (ADT)	Planned Configuration	Level of Service
Fulkerth Road	Washington Road and Tegner Road	16,290	4-Lane Arterial	A
Fulkerth Road	Tegner Road and Dianne Drive	21,720	4-Lane Arterial	C
Fulkerth Road	Dianne Drive and SR 99 I/C	29,450	5-Lane Arterial	D
West Main Street	Washington Road and Tegner Road	21,400	4-Lane Arterial	C
West Main Street	Tegner Road and S. Walnut Road	32,780	6-Lane Arterial	B
West Main Street	S. Walnut road and SR 99 I/C	43,300	6-Lane Arterial	D
West Canal Drive	Walnut Road and Tegner Road	8,900	2-Lane Collector	C
West Canal Drive	Tegner Road and Washington Road	6,600	2-Lane Collector	B
W. Linwood Ave.	S. Tegner Road and S. Walnut Road	12,110	3-Lane Arterial	B
W. Linwood Ave.	S. Walnut road and Lander Avenue	14,500	3-Lane Arterial	C
Washington Road	Fulkerth Road and West Main Street	14,830	4-Lane Arterial	A
Tegner Road	Fulkerth Road and West Main Street	8,440	2-Lane Collector	C
Tegner Road	West Main St. and W. Linwood Ave.	12,470	3-Lane Arterial	B
Tuolumne Road	Overcrossing over SR 99	na	2- Lane Collector	na

Source: City of Turlock Westside Industrial Specific Plan Traffic Circulation Study, Omni-Means, June 2003

Table 15-8

Year 2025 Base Plus Project Conditions:

Mitigated Intersection Levels of Service

			AM Peak Hour			PM Peak Hour		
	Intersection	Control Type	Delay (Sec/veh)	LOS	Warrant Met?	Delay (Sec/veh)	LOS	Warrant Met?
1	SR 99 NB Ramps/Fulkerth road	Signal	19.9	B	-	21.7	C	-
2	SR 99 SB Ramps/Fulkerth Road	Signal	28.3	C	-	37.9	D	-
3	SR 99 NB Ramps/West Main Street	Signal	29.4	C	-	37.4	D	-
4	SR 99 SB Ramps/West Main Street	Signal	32.2	C	-	30.7	C	-
5	Fulkerth Road/North Tegner Road	Signal	25.7	C	-	32.2	C	-
6	Fulkerth Road/Dianne Drive	Signal	21.4	C	-	34.0	C	-
7	Fulkerth Road/Tully Road	Signal	30.1	C	-	45.8	D	-
8	Fulkerth Road/Golden State Boulevard	Signal	32.4	C	-	38.9	D	-
9	West Canal Drive/Tully Road	Signal	31.4	C	-	30.9	C	-
10	West Canal Drive/Golden State Boulevard	Signal	30.7	C	-	31.7	C	-
11	West Main Street/North Washington Road	Signal	32.9	C	-	33.3	C	-
12	West Main Street/South Tegner Road	Signal	34.2	C	-	33.7	C	-
13	West Main Street/South Walnut Road	Signal	24.5	C	-	45.0	D	-
14	West Main Street/Tully Road	Signal	33.4	C	-	45.3	D	-
15	West Main Street/Lander Avenue	Signal	29.0	C	-	33.3	C	-
16	West Linwood Avenue/S. Walnut Avenue	Signal	31.2	C	-	33.2	C	-
17	West Linwood Avenue/Lander Avenue	Signal	34.0	C	-	28.3	C	-
18	West Glenwood Avenue/Lander Avenue	Signal	16.0	B	-	17.0	B	-
19	Fulkerth Road/Washington Road	Signal	32.6	C	-	33.0	C	-
20	West Linwood Avenue/Tegner Road	Signal	25.1	C	-	31.5	C	-

TWSC = Two-way-stop Control AWSC = All-way-stop Control
Average Delay = Average Intersection Delay (and corresponding LOS) for Signalized and AWSC Intersections
Average Delay = Worst-case Intersection Movement Delay (and corresp9onding LOS) for TWSC Intersections
Warrant = Caltrans Peak-Hour Volume Signal Warrant -11 (Urban Areas)

Mitigation Measures:

TC-1.1: Design industrial development to minimize potential community impacts adversely affecting residential and commercial areas in relation to local and regional air quality and odor, adequacy of municipal service, **local traffic conditions**, visual quality, and noise levels. (Westside Industrial Specific Plan Land Use Policy LU-P-10)

TC-1.2: Develop a comprehensive transportation system to provide convenient and quick access to the work place, which minimizes commute time and costs. (Westside Industrial Specific Plan Objective 9)

TC-1.3: Provide convenient access to personal services and conveniences near the work place, such as day care, medical and dental care, banking, professional services recreation, retail shops and restaurants. (Westside Industrial Specific Plan Objective 10)

TC-1.4: Strive to maintain a minimum Level of Service Standard C on all roadway segments in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 1)

TC-1.5: Strive to maintain a minimum Level of Service Standard D in the PM Peak Hour on all intersections in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 2)

TC-1.6: Protect the rail corridor to ensure that rail service continues to be available in the Plan Area. (Westside Industrial Specific Plan Transportation Objective 6)

TC-1.7: Accommodate truck traffic. (Westside Industrial Specific Plan Transportation Objective 7)

TC-1.8: Create efficient, interconnected street patterns. (Westside Industrial Specific Plan Transportation Objective 8)

TC-1.9: Continue to monitor traffic service levels and implement improvements prior to deterioration in levels of service to below the stated standard. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-1)

TC-1.10: Business Park streets shall be continuous between primary streets, or between primary streets and other business park streets. Cul-de-sac streets will be allowed only where physical barriers prohibit continuous streets. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-6)

TC-1.11: Washington Road shall be designated as an Expressway between Keyes Road and W. Harding Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-10)

TC-1.12: Developments along Tegner Road, Washington Road and West Main Street shall be required to consolidate or limit driveways in order to minimize traffic conflicts consistent with General Plan Table 5.2-B, Expressway Design and Access Standards. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-11)

Traffic System Management (TSM): TSM measures help improve traffic flow through various actions and road improvements aimed at reducing traffic congestion, increasing average vehicle speeds, and smoothing traffic flow.

TC-1.13: The backbone traffic management system will be implemented with the first phase of development of the Plan Area and will be expanded as the Plan Area develops subject to the review and approval of the system by the City Engineer. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-27)

TC-1.14: Future SR 99 interchange improvements shall provide for traffic system management measures. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-28)

Rail: Rail freight service reduces the number of trucks and other delivery vehicles required.

TC-1.15: The design of circulation improvements, notably street extensions and expansions, shall consider the effect on the continued viability of the rail spur. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-29)

TC-1.16: Preserve and protect rail access that serves sites suitable for rail dependent industries. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-31)

TC-1.17: Prohibit uses that undermine the viability of rail operations. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-32)

Residual Level of Significance: **Less Than Significant With Mitigation**

POTENTIAL IMPACT TC-2: **The proposed WISP project would substantially increase hazards due to incompatible uses, such as conflicts between local employee traffic and pedestrians with heavy trucks, rail freight service, as well as with farm equipment that will continue to operate for a time within the Study Area.**

Level of Significance: **Potentially Significant**

Mitigation Measures:

TC-3.1: Provide development sites that are appropriate to the industrial and commercial user needs in terms of access, the size and configuration of available land parcels, availability of suitable buildings, and **compatibility with surrounding land use.** (Westside Industrial Specific Plan Objective 6)

TC-3.2: Separate heavy truck traffic from local employee traffic and pedestrians**.** (Westside Industrial Specific Plan Transportation Objective 3)

TC-3.3: Emphasize routes for major truck traffic and out-of-area employees on the west side of the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-3)

TC-3.4: Emphasize access for resident employees on east-west circulation, notably Fulkerth Road, West Canal Drive, Castor Street and West Linwood Avenue. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-4)

TC-3.5: Truck traffic, other than local delivery trucks, shall be limited to the primary streets: Fulkerth Road, West Main Street, West Linwood Avenue, South Walnut Avenue, Washington Road and Tegner Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-7)

TC-3.6: Incorporate provisions for trucks in the design of designated truck routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-8 and General Plan Policy 5.6-c)

TC-3.7: Establish a signage system to direct trucks to the designated routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-9 and General Plan Policy 5.6-e)

TC-3.8: The streets within the Business Park must accommodate the flow of trucks and peak employee traffic. The first application for development in the Business Park shall include a circulation street network for the entire Business Park. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-12)

TC-3.9: Continue the ongoing comprehensive program to improve the condition and safety of existing railroad crossings by upgrading surface conditions and installing signs and signals where warranted. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-30 and General Plan Policy 5.6-j)

Residual Level of Significance: Less Than Significant With Mitigation

POTENTIAL IMPACT TC-3: The proposed WISP project would result in inadequate emergency access.

Level of Significance: Potentially Significant

The planned street system would add routes for emergency vehicles and evacuation within the Plan Area. As new streets and routes are added the emergency access will actually improve.

Mitigation Measures:

TC-4.1: Create efficient, interconnected street patterns. (Westside Industrial Specific Plan Transportation Objective 8)

TC-4.2: Local streets shall align with the existing rectangular grid pattern where feasible. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-2)

TC-4.3: Local streets shall be continuous and connect with cross streets consistent with General Plan Implementing Policy 7.4-e. Cul-de-sac streets are prohibited unless there is no viable alternative. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-5)

Residual Level of Significance: Less Than Significant With Mitigation

POTENTIAL IMPACT TC-4: The proposed WISP project would result in inadequate parking capacity.

Parking in all land use areas shall be regulated by the standards established in the Turlock Zoning Ordinance.

Level of Significance: Less Than Significant

POTENTIAL IMPACT TC-5: The proposed WISP project would conflict with adopted programs supporting alternative transportation.

Level of Significance: Potentially Significant

The City's fixed route (Bus Line Service of Turlock "BLAST") bus system and specialized dial-a-ride service could be extended into the Study Area as development occurs. The Specific Plan includes several features such as bus stops and sidewalk connections that will help make public transit more attractive and convenient.

Higher levels of employment would provide greater potential rider ship for public transit.

Mitigation Measures:

TC-6.1: Expand opportunities for employees to commute to work via public transportation, local shuttle services, alternative vehicles, and bicycling. (Westside Industrial Specific Plan Transportation Objective 5)

TC-6.2: The City shall, through the terms of any discretionary or administrative approval of projects in the General Commercial, Commercial Office, Industrial and Industrial-Business Park land use, encourage employers to cooperate with Stanislaus Council of Governments by making information on rideshare, transit and other travel alternatives available to employees. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-26)

Pedestrian Paths and Bikeways

TC-6.3: The sidewalks must be designed to enable patrons to walk to the commercial centers from their place of employment or residence during suitable weather. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-15)

TC-6.4: The pedestrian path system shall connect conveniently and directly to the location of any stop along a public transit route adjacent to the commercial center. Shaded streetscapes shall be provided to encourage non-motorized transportation. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-16)

TC-6.5: Class II bike paths will be provided on all primary and secondary streets in the Plan Area. This includes:

- Fulkerth Road
- West Main Street (east of Tegner Road
- West Linwood Avenue (east of Tegner Road)
- Walnut Avenue, Dianne Drive, and Tegner Road
- W. Tuolumne Road Over-crossing

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-17)

TC-6.6: Class I bike paths will be included in the Plan Area in the following location:

- West Canal Drive between SR 99 and Tegner Road

(Westside Industrial Specific Plan Infrastructure and Services Policy I-P-18)

TC-6.7: Street and driveway crossings along the designated Class I bike paths shall be minimized. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-19)

TC-6.8: A parking area for the bike path system shall be located at the detention pond area on the south side of the future extension of Canal Drive, East of Dianne Drive. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-20)

Public Transit

TC-6.9: The public transit routes shall be designed to provide convenient commute service from the residential areas to the employment center. Fulkerth Road, Tegner Road, West Main Street, Dianne Drive, Canal Drive and Washington shall be considered potential routes for any future public transit system. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-21)

TC-6.10: All Commercial Office (CO), Community Commercial (CC) and Industrial Business Professional (I-BP) land uses located beyond the intersection of arterial streets shall provide space to accommodate a transit stop beyond the intersection consistent with Standard ST-16 subject to approval by the City Engineer. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-22)

TC-6.11: All Commercial Office (CO), Community Commercial (CC) and Industrial Business Professional (I-BP) land uses shall provide a pedestrian path consistent with ADA requirements that connects the primary building entry to the public ROW. The pedestrian path shall terminate on the public ROW within 400 feet of any transit stop located along the project frontage. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-23)

TC-6.12: The City Engineer shall consider the location of pedestrian routes and bike routes in approving the location of transit stops in order to facilitate convenient connections between transit and major pedestrian/bike routes. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-24)

TC-6.13: A transit hub that would serve the Plan Area should be located near the highest concentration of potential employment. Opportunities would exist along the future extension of Tegner Road between West Main Street and Fulkerth Road. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-25)

Neighborhood Vehicles (Light Electric-Powered Vehicles)

TC-6.14: All secondary streets shall be designed and posted for speeds of 25 miles per hour, or less to allow Neighborhood Electric Vehicles to circulate through the Plan Area. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-13)

TC-6.15: Canal Drive will be the preferred route over SR 99 for neighborhood electric vehicles and shall be posted for not more than 25 mph. (Westside Industrial Specific Plan Infrastructure and Services Policy I-P-14)

Residual Level of Significance: Less Than Significant With Mitigation

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16. ALTERNATIVES ANALYSIS

16.1 INTRODUCTION

Section 15126.6(a) of the CEQA Guidelines requires that the Lead Agency,

> *"…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."*

Section 15126.6(b) of the Guidelines further states that,

> *"…the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."*

An EIR must describe a range of "reasonable" alternatives to the proposed project that could feasibly attain most of the basic objectives of the project. The feasibility of an alternative may be determined based on a variety of factors, including but not limited to, economic viability and availability of infrastructure In addition, by mandating the inclusion of a "no project" alternative, the resulting analysis is intended to provide a baseline against which project-related and alternative impacts can be evaluated. Since a comparative analysis of each alternative is required, this section provides the City's decision makers and the general public with the means to compare and select between different ways of accomplishing the project's stated objectives.

16.2 PROJECT OBJECTIVES

CEQA Guidelines, Section 15124(b), requires a statement of the objectives sought by the proposed project.

The Turlock General Plan designates the Westside Industrial Specific Plan (WISP) Study Area as the primary location for job development in Turlock. The fundamental purpose of the project is to implement the General Plan goal for a major industrial center in the City of Turlock. The Specific Plan implements the policies established in the City of Turlock General Plan.

The stated objectives of the WISP project are:

Objective 1. Provide a new employment center for commerce and industrial uses compatible with the Plan Area.

Objective 2. Improve the jobs/housing balance in south Stanislaus County by providing local job opportunities in Turlock and, thereby, reducing the home-to-work commute by Turlock residents.

Objective 3. Establish high quality development that will provide landscaping and building design appropriate to the type of business activity present and a distinctive gateway to Turlock along SR 99.

Objective 4. Provide an attractive, pleasant work place, as reflected in the landscaping, quality buildings, access to parking, and employee oriented amenities, such as on-site recreation, outdoor and indoor lunch areas, and walking paths that connect to other businesses, restaurants, and services.

Objective 5. Provide development sites that are appropriate to the industrial and commercial user needs in terms of access, the size and configuration of available land parcels, availability of suitable buildings, and compatibility with surrounding land use.

Objective 6. Provide infrastructure and circulation improvements to support economic development.

Objective 7. Provide a good value for development of new facilities in terms of land costs, infrastructure and buildings.

Objective 8. Develop a comprehensive transportation system to provide convenient and quick access to the work place, which minimizes commute time and costs.

Objective 9. Provide convenient access to personal services and conveniences near the work place, such as day care, medical and dental care, banking, professional services, recreation, retail shops and restaurants.

Objective 10. Provide a location for start-up businesses near high support services and opportunities for business interaction.

Objective 11. Develop an industrial center that is noteworthy for technological innovation in communications and building design with regard to lighting, heating and cooling, materials re-use, water and energy conservation.

16.3 PROJECT ALTERNATIVES

In fulfillment of the City's CEQA obligations, the City has identified a range of reasonable alternatives that accomplish the project's stated objectives, serve to satisfy specific analytical requirements (i.e. "no project" alternative), and seek to avoid or reduce the significant or potentially significant effects of the proposed project. Each of these alternatives is separately examined below.

Other alternatives identified by the City but deemed to be either infeasible or determined to be unlikely to produce a substantial reduction in any of the significant of potentially significant environmental effects identified in this EIR are specified below.

16.4 ALTERNATIVES CONSIDERED BUT SUBSEQUENTLY REJECTED

A number of project alternatives were considered and subsequently rejected by the City. The following alternatives were rejected either because these options were deemed to be infeasible, or lacked a reasonable likelihood of resulting in the avoidance or substantial reduction of the project's significant or potential significant environmental effects.

16.4.1 Alternative Land Use Mix

The magnitude and special purpose of this proposed project severely limits the range of alternative projects that would implement the intent of the General Plan. Specifically, the Study Area is designated in the General Plan as the location for a major employment center, and furthermore, that the residential land uses in the City should be located east of SR 99. Therefore, alternatives that include a residential component, or that substantially reduce or alter the employment generating land uses would not be consistent with the General Plan.

The alternatives are significantly influenced by the economic viability and demand for certain industrial types that are suited to the Central Valley in general, and specifically to the south Stanislaus County area. The Specific Plan reflects existing development plans and studies prepared by the City and Stanislaus County. Most notably, these include the City of Turlock Economic Development Plan, and Stanislaus County Economic Development and Implementation Plan. A study of Industry Cluster Opportunities, prepared by ESI Corp Strategic Planning Team (December 2002) for the City and Stanislaus County identified the opportunities for creation of an "Agri-Sciences Cluster" that encompasses biotech, life sciences and agri-business. The planned cluster should be inter-related with agriculture and food technology headquarters, growers, processors, suppliers and distributors.

The Agri-Sciences cluster is a dominant theme in the Specific Plan, although not to the exclusion of other industrial activity. The Specific Plan land use is a mix of industrial, business-industrial, commercial and other supporting uses intended to serve two purposes. First, the mix of uses

would allow a variety of employment opportunities to develop. Within each land use category is a fairly broad range of permitted uses. Thus, the area could develop in different combinations of warehouse, office, industrial, and commercial uses. Second, the land uses are distributed in a manner that should allow opportunities for economic growth at any time. Land use is coordinated with the phases of development determined by the availability of sewer, water, drainage and road improvements.

An alternative that would emphasize industrial, or office, or commercial use to the exclusion of some other use is not included in this alternatives analysis because the land use mix and distribution is designed to accommodate a wide range of alternative development scenarios.

16.4.2 Alternative Site

For some projects, impacts can be avoided or reduced merely by relocating the project site (e.g., moving the project out of a sensitive resource area). In recognition of this possible impact avoidance strategy, the Guidelines contain provisions for the consideration of alternative project sites and acknowledge that in some cases there may be no feasible alternative location (Section 15126.6(f)(2)). The Turlock General Plan designates the WISP Study Area as the primary location for job development in Turlock. The fundamental purpose of the project is to implement the General Plan goal for a major industrial center in the City of Turlock. The Specific Plan implements the policies established in the City of Turlock General Plan.

The alternative location scenario would consider the location of a comparable sized employment development center elsewhere in or adjacent to the city, or a combination of smaller employment centers distributed around the city that would accommodate similar levels of employment development.

This alternative is not consistent with the General Plan that specifically directs employment development to the west side of SR 99 in this area. A review of the General Plan land use map and the vacant land in and around the city indicate that there is not a feasible alternative location or combination of locations that would achieve the objectives of the Specific Plan due to the following considerations:

- The existing industrial core provides a nucleus of industrial activity that would attract similar, compatible uses. Location of additional industrial uses in or around the existing city would cause compatibility conflicts with other land uses.

- The existing rail spur service exists only in the Study Area and cannot be easily replicated elsewhere in the city. Therefore, rail dependent industrial and warehouse uses would be precluded in other locations.

- The proximity of the Turlock Water Quality Facility to the industrial uses makes the Study Area uniquely appropriate for industrial uses that generate high volumes of waste

water. Alternative locations for such uses would require expensive wastewater transmission facilities that would be likely to have additional significant environmental impacts related to construction.

- The visibility along SR 99 is an important asset to marketing the planned uses, notably the office and business-industrial park uses that benefit from freeway exposure. Other highly visible locations are located along SR 99 in the vicinity of the city, but none have the other attributes of access, size and existing industrial core that are provided in the Study Area.

- Access to SR 99 and the connection to I-5 near Patterson on Route J17 (W. Main Street) provide major traffic circulation on the west side of the city that is not available at other locations.

16.4.3 Dispersed Mix of Comparable Uses

A mix of supporting and inter-related land uses, such as office, service commercial, industrial and warehouses, is required to achieve the Specific Plan objectives of diverse employment opportunities. Distribution of these uses in smaller, dispersed locations in and around the city could provide the same total acres of development, but such a pattern of development would diminish the beneficial synergistic effects of different businesses and services interacting with one another in convenient proximity.

Therefore, the dispersion of the proposed land uses to several, smaller alternative locations was not considered.

16.4.4 Market-Driven Alternative

Section 653029(a) of the California Government Code (CGC), states that a general plan shall include a land use element that "designates the proposed general distribution and general location and extent of the 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." The City is required to specify the location and intensity of land uses within the community.

Under a purely market-driven approach, the City would not be proactive (neither delineating the geographic areas for land use categories nor establishing standards for those areas), but would be reactive (the City would merely respond to what individual owners determine to be the appropriate land use for each parcel). It is, therefore, the marketplace rather than the City that determines how the City ultimately develops. This approach has the potential to result in the

introduction of adjoining uses of different types and intensities and, therefore, create land use conflicts that could otherwise be avoided through effective planning.

16.5 ALTERNATIVES UNDER CONSIDERATION

This analysis includes two alternatives to the proposed project:

(1) No Project Alternative

(2) Reduced Development Alternative

16.5.1 No Project Alternative

Under this scenario, no further development would occur. The City would not develop beyond the existing structures and uses within the Study Area.

This alternative is specifically mandated under the Guidelines and is posited for the sole purpose of providing a baseline against which other alternatives are considered and the comparative impacts of those alternatives can be evaluated. It is, however, unreasonable to assume that conditions within the Study Area will be retained as they currently exist. Industrial, business, and commercial uses already exist within the Study Area, and expansion of such uses is a foreseeable desire in a growing community in need of jobs. As a result, this alternative should be considered infeasible.

16.5.2 Reduced Development Alternative

The mix of land uses proposed in the Specific Plan is intended to provide a location for adequate land area to accommodate substantial employment development growth. This is a long-term approach that enables the city to master plan for major infrastructure improvements, such as sewer, water, drainage, and roads. This is necessary to ensure cost effective and logical public improvements. In addition, the area included in the Specific Plan provides larger parcels that are suitable for master planned industrial and business-professional parks.

The reduced scale project eliminates the Industrial Reserve land use, reduces the Industrial (I) land use by 50% and the Industrial-Business Professional (I-BP) land use by 50% compared to the increase in land use provided in the Specific Plan. The increase in Community Commercial (CC) land use and Commercial Office (CO) would remain the same in the reduced scale project.

The reduced scale alternative would allow development of the mixed use concept envisioned in the Specific Plan, and would allow for employment development in the type of industries identified in the studies cited above in this section. The reduced area allocated to industrial and industrial-business professional uses would constrain potential opportunities for development of master planned industrial parks.

16.6 COMPARISON OF ALTERNATIVE PLANS

Table 16-3 provides a comparison of the land uses allocated in each alternative. The "No Growth-No Development" alternative is not included in the table because it would provide no land development at all and is not feasible.

Table 16-3

Summary of Alternatives Analysis

Land Use	Proposed Project Acres	Reduced Development Alternative Acres
Commercial Office (CO)	174	174
Community Commercial (CC)	87	87
Industrial Business Professional (I-BP)	250	125
Industrial (I)	1,211	605
Public (PUB)	171	171
Detention Basin Park (I-BP)	39	39
Industrial Reserve (IR)	515	0
Roads	185	120
Total	2,632	1,321

16.7 ANALYSIS OF PROJECT ALTERNATIVE

The reduced development alternative would provide less land for industrial development. This would concentrate the proposed development in the area east of Fransil Lane, although not entirely

16.7.1 Aesthetics and Visual Resources

The reduced development alternative would reduce the area converted from agricultural to urban use, but would not appreciably change the view from the view from SR99. The alternative would include development along the SR99 frontage that would effectively screen the view to the west.

The reduced development alternative would reduce the area used for industrial uses that typically would have lower aesthetic standards than the commercial and business professional uses that would be included. Therefore, the overall aesthetics of the reduced development alternative would be at a higher standard than proposed project.

16.7.2 Agricultural Resources

The reduced development alternative would have less impact on the higher quality agricultural soils that are located generally to the west side of the Study Area. Fewer acres of agricultural land would be converted to urban use.

16.7.3 Air Quality

The reduced development alternative would generate less vehicle traffic and would have fewer industrial uses that could have air pollution emissions. Therefore, this alternative would have less impact. However, the loss of employment opportunities in the Study Area does not necessarily equate to fewer vehicle trips in the vicinity of Turlock. Residential development could continue despite a lack of employment opportunities due to other factors, such as relatively more affordable housing. In this scenario, vehicle generated air pollution could be worse due to local residents commuting longer distances out of the area to find work.

In addition, the WISP includes features that support and promote the use of public transit and alternative vehicles for local workers. To the extent that these features are effective in reducing local vehicle trips the plan would have a beneficial effect on air pollution relative to a conventional project of similar size and land uses.

16.7.4 Biological Resources

16.7.5 Cultural Resources

No cultural resources were identified in the Study Area; therefore the reduced development alternative would reduce the potential impacts. However, the extent of area proposed for development in the proposed project would increase the possibility of impacting an undiscovered resource, and the reduced development alternative would diminish that possibility.

16.7.6 Geology, Soils, and Seismicity

The reduced development alternative would reduce the potential impact on geology and soils, and would diminish the potential risk due to seismicity only to the extent that less land area is involved.

16.7.7 Hazardous Materials

The reduced development alternative would include less industrial land use than the proposed project. To the extent that industrial uses include a greater risk of public exposure to hazardous materials, the reduced development alternative would represent a reduced risk compared to the proposed project.

16.7.8 Hydrology and Water Quality

The reduced development alternative would include less industrial land use than the proposed project and would therefore have a proportionally lesser impact on the creation of impervious surfaces that would affect local hydrology. In addition, industrial uses would have greater potential for material spills that could affect groundwater quality. Therefore, the reduced development alternative would have less potential impact on hydrology and groundwater compared to the proposed project. However, industrial uses are typically developed at lower intensity than commercial or business professional uses. Industrial uses provide more land for on-site water quality facilities and detention basins that would enhance the opportunity for storm water management, surface water quality facilities, and groundwater replenishment.

16.7.9 Land Use and Planning

The reduced development alternative would not change the type of land uses included in the Study Area, therefore potential impacts relating to land use conflicts are not affected. The extent of development that would convert agricultural use to urban use would be diminished.

16.7.10 Noise

The reduced development alternative would include less industrial use that could be the source of noise. However, the alternative would not reduce the development of the area adjacent to SR99 or along the UPRR rail line. Therefore, the exposure of workers to existing noise sources would not be diminished in the reduced development alternative.

16.7.11 Population and Housing

The reduced development alternative would not have a direct influence on population and housing because it does not include a residential component. The alternative could have an indirect effect by reducing the potential for employment in the Turlock area, and thereby diminishing the opportunity to balance jobs and housing.

16.7.12 Public Facilities and Services

The reduced development alternative would be a more compact development pattern that would not extend to the area along Washington Boulevard. Consequently, there are elements of the sewer, water, drainage and roads master plan that would not be required if these areas remain in agriculture. Similarly, the demand for police and emergency services would be less.

16.7.13 Traffic and Circulation

The reduced development alternative would generate less vehicle traffic. The reduced industrial use would generate a lower volume of truck traffic. However, the reduced development alternative would also avoid development of some planned roads on the west side of the Study Area, and could delay or avoid some road improvements elsewhere in the vicinity. To the extent that these improvements provide a higher Level of Service compared to the existing conditions, the reduced development alternative could actually have a negative impact on future traffic operations in or around the Study Area.

16.8 ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on the above evaluation of the comparative merits of each alternative, and the environmental analysis of implementation of the proposed WISP project, the environmentally-superior alternative is the reduced development alternative. However, the reduced development alternative would significantly reduce the opportunities for industrial development that is currently, and is likely to remain for many years, the most significant source of employment development. Reconfiguration of the Specific Plan land use map to locate industrial uses closer to SR99 in-lieu of the proposed business professional and commercial uses is not a feasible alternative. The locations near SR99 are much more suited to the planned uses. Locating industrial land use in this area could preclude future development that would be more valuable to the city and important in creating a complex of businesses oriented to the Agri-science cluster targeted for the long term use of this area.

The reduced development alternative would be the environmentally preferred alternative, but it does not fully meet the objectives of the Specific Plan to provide a large complex of industrial, business-professional, research and development, and commercial uses as a long-term economic development strategy.

17. OTHER CEQA CONSIDERATIONS

This section addresses other California Environmental Quality Act (CEQA) considerations that are required as part of an EIR.

17.1 GROWTH INDUCING IMPACTS

The State CEQA Guidelines (§15126.2[d]) require that an EIR evaluate the growth-inducing impacts of a proposed project. Specifically, an EIR must:

> *"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. Included in this are projects which would remove obstacles to population growth… Increases in the population may tax existing community service facilities, so consideration must be given to this impact. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must bot be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Growth inducement, by itself, is not an environmental effect but may indirectly lead to environmental effects. Such environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or wildlife habitats, or conversion of agricultural and open space land to urban uses.

17.1.1 Growth Inducing Impacts of the Proposed Westside Industrial Industrial Specific Plan (WISP)

Encouraging and Facilitating Other Activities

This CEQA issue addresses the extent to which implementation of the WISP project would cause increased development in the area through stimulation of economic activity.

Implementation of the WISP project would directly affect growth in Turlock by allowing for construction of non-residential uses. Increased employment is necessary to support the projected increase in population; therefore, as the WISP project accommodates the expected growth to one degree or another, related job growth would result.

The Westside Industrial Specific Plan is designed to promote job creation in the industrial, commercial and business sectors in the major planned employment center. The objective of

these facilities is, in part, to provide resident workers an opportunity to work in their community, thereby avoiding the long commute to work.

A Guiding Principle of the 1992 City of Turlock General Plan Land Use Element addresses the need to increase the number of jobs in the City to help reduce vehicular trips commuting out of the City and the County. Indirectly, then, increases in employment and population would generate a secondary demand for other services, but could have a beneficial effect on traffic and air quality.

Removing Obstacles to Population Growth

This CEQA issue addresses the extent to which regulatory changes and/or infrastructure capacity provided to support the implementation of the WISP project, allowing additional, unforeseen development in the surrounding areas.

Whether or not growth obstacles are eliminated relates to the extent to which the proposed WISP project would increase infrastructure capacity or change the regulatory structure such that additional development in the County and region would be allowed. A physical obstacle to growth typically involves the lack of public service infrastructure or insufficient infrastructure capacity. The extension of public service infrastructure (e.g., roadways, water, and sewer lines) into areas that are not currently provided with these services would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

The approval of the WISP project specifically approves infrastructure capacity, thereby enabling development to occur.

17.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

CEQA Guidelines, Section 15126(b) states that an EIR must:

> *"Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance."*

Those impacts, which cannot be feasibly mitigated to less-than-significant impacts, would remain as significant and unavoidable adverse impacts. The significant and unavoidable adverse impacts addressed in this EIR are listed below in Table 17-1.

Table 17-1

Significant and Unavoidable Adverse Impacts

AGRICULTURAL RESOURCES

POTENTIAL IMPACT AG-1:	Implementation of the Westside Industrial Specific Plan (WISP) (Project) will result in conversion of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance to non-agricultural use.
POTENTIAL IMPACT AG-2:	Implementation of the Westside Industrial Specific Plan (WISP) will cause a conflict with existing zoning for agricultural use, or a Williamson Act contract.
POTENTIAL IMPACT AG-3	Due to its location or nature, the proposed WISP project may result in conversion of adjacent farmland to non-agricultural uses.

AIR QUALITY

POTENTIAL IMPACT AQ-2:	Implementation of the Westside Industrial Specific Plan (WISP) could violate air quality standards or contribute substantially to the current nonattainment status for ozone and PM10.
POTENTIAL IMPACT AQ-3:	Implementation of the Westside Industrial Specific Plan (WISP) would result in a cumulatively considerable net increase in ozone and PM10 air pollutants.

BIOLOGICAL RESOURCES

POTENTIAL IMPACT B-6:	Impacts on biological resources from the buildout of the WISP Study Area may be cumulatively significant. (SIGNIFICANT)

PUBLIC FACILITIES AND SERVICES

POTENTIAL IMPACT PFS-7:	The Westside Industrial Specific Plan (WISP) would require expanded energy sources and infrastructure for expanded urban development.

17.3 CUMULATIVE IMPACTS

17.3.1 Requirements for Cumulative Impact Analysis

This EIR provides an analysis of cumulative impacts of the proposed Westside Industrial Specific Plan, as required by §15130 of the CEQA Guidelines (State CEQA Guidelines). Cumulative impacts are defined in State CEQA Guidelines §15355 as two or more individual effects that together create a considerable environmental impact or that compound or increase other impacts. "A cumulative impact occurs from the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (Guidelines §15355[b]). By requiring an evaluation of cumulative impacts, CEQA attempts to ensure that large-scale environmental impacts will not be ignored. Consistent with State CEQA Guidelines §15130(a), the discussion of cumulative impacts in this EIR focuses on significant and potentially significant cumulative impacts. According to State CEQA Guidelines §15130(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 the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact."

All of the following elements are necessary to an adequate discussion of cumulative impacts (Guidelines §15130[b]):

> Either: (A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or: (B) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
>
> 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.
>
> A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of the proposed projects.

The significance conclusions and mitigation measures described for the impacts of the WISP project alternatives may also be applicable to cumulative impacts. Therefore, when warranted,

cross-references to analysis or mitigation measures in Sections 3 through 15 (inclusive) are provided to avoid repetition.

17.3.2 Local and Regional Context of Cumulative Impacts

As described above, the State CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and reasonably anticipated future projects, or the use of adopted projections from a general plan or other regional planning document. The evaluation of the cumulative environment for this EIR is based on projections in the 1992 City of Turlock General Plan (Reviewed 2002).

17.3.3 Assessment of Cumulative Impacts

Land Use and Housing

In the absence of a major new employment center the region is likely to continue to fulfill the role of housing workers from outside the City and Stanislaus County. The demand for housing remains strong. The housing market has demanded relatively large homes in residential subdivisions that consume large land areas. The cumulative effects include conversion of agricultural land.

Visual Resources

As cities grow outward, they could ultimately connect to one another forming a contiguous urban area. The cumulative effect could be the loss of the open agricultural land that separates the communities and contributes to each community's sense of identity and place. The proposed project would extend development west where no other urban areas exist. Thus, there is no potential for forming a contiguous urban area.

Agriculture

The conversion of agricultural land to urban uses is unavoidable in the Turlock area. Although the Prime Farmlands are more prevalent in other parts of the county, development in this area will inevitably impact Farmlands of Statewide Importance. The cumulative effect of incremental conversion of farmland is a continuing loss of farm operations due to the encroachment of urban uses that conflict with farm activities.

Air Quality

Air quality is inherently a regional consideration. As a non-attainment area, all incremental growth contributes to the degradation of air quality.

Biological Resources

The impact of expanding urban development on biological resources may be cumulatively significant. Each project proponent will be proceeding under the “project-by-project” evaluation and mitigation process with each permitting agency. Since project-by-project evaluation cannot reasonably foresee the overall effects on biological resources of individual projects under multiple agency control, cumulative impacts may result.

Traffic and Circulation

Traffic analysis for the Westside Industrial Specific Plan (WISP) used the updated Turlock Citywide traffic model as well as the StanCOG's regional traffic model. The Year 2025 traffic volumes were forecasted utilizing the updated Citywide Traffic Model which considers full buildout of the City's current General Plan (1992-2012) and some additional development on "urban reserve" lands through year 2025.

The results of that analysis reflect the cumulative effect of all traffic in the region.

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California State Central Valley Regional Water Quality Control Board

California State Department of Conservation, Division of Mines and Geology

California State Department of Conservation, Farmland Mapping and Monitoring Program

California State Department of Conservation, Williamson Act Program

California State Department of Fish and Game, California Natural Diversity Database (CNDDB)

California State Department of Toxic Substances Control

California State Integrated Waste Management Board

Central California Information Center, California Historical Resources Information System (California State University, Stanislaus)

Pacific Gas and Electric Company, Inc.

Stanislaus County Building Inspection Department

Stanislaus County Department of Environmental Resources

Stanislaus County Resource Conservation District

San Joaquin Valley Unified Air Pollution Control District

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