

**FINAL  
CITY OF IMPERIAL  
ENVIRONMENTAL IMPACT REPORT  
GENERAL PLAN REVISION PROJECT  
1992**

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CONSULTANT

Michael S. Gaston, AICP  
The Holt Group, Inc.  
4784 Highway 111  
Brawley, CA 92227  
(619) 344-8182

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## EXECUTIVE SUMMARY

### I. INTRODUCTION AND PURPOSE OF REPORT

The City of Imperial intends to revise its General Plan to include all the area within the Sphere of Influence designated for the City. The planning area will include approximately 10,000 acres and will extend northward to Harris Road, east to Dogwood Road, west to Austin Road, and south to Treshill Road. Approximately 28% of the land within the Planning Area (2,803 acres) is projected to remain in agriculture when full implementation of the General Plan occurs in the year 2015. The revised General Plan is therefore a long range projection for the future growth and development within the City. The City of Imperial is projected to experience a significant increase in population during the next 20 years. The current population is approximately 5,000 and the population in the year 2015 is projected to be 19,500. The City is thus planning for a 400% increase in population in the next two decades. In order to accomodate this growth, a substantial amount of agricultural land will be converted to urban uses. Approximately 2,640 acres of agricultural land are proposed to be converted to urban uses by the year 2015. The urbanized area of the City in the year 2015 is projected to include a total of 7,256 acres.

The specific land uses that are expected to be developed within the General Plan area between the years 1992 and 2015 are as follows:

<u>Land Use</u>	<u>Acres</u>
1. Rural Residential	528.5
2. Low Density Residential	2,992.1
3. Low Medium Density Residential	1,132.1
4. Residential Condominium	7.3
5. Multiple Family Rental Residential	120.2
6. Mobile Home Park	69.8
7. Village Commercial	14.2
8. Neighborhood Commercial	443.9
9. Auto Mall	82.2
10. Commercial Office	85.3
11. General Industrial	395.3
12. Rail Served Industrial	789.4
13. Agricultural	2,803.7
14. Public Use	<u>584.4</u>
TOTAL ACREAGE	<u>10,048.40</u>

The purpose of the revised General Plan is to provide for the future orderly growth of the City and to promote the economic development of the City, thereby increasing the City's sales tax base and number of new jobs. The City of Imperial

is anticipating that the construction of the Dixieland Ranch State Prison will have a major economic impact on the City. The purpose of this environmental impact report is to assess the potential environmental impacts from the full implementation of the revised General Plan. Two alternatives to the proposed General Plan Revision Project were considered: (1) A no project alternative; and (2) A modified revised General Plan that would reduce the impact on agricultural land, water, and other natural resources and also reduce the impact on wildlife and wildlife habitat.

**II. POTENTIAL SIGNIFICANT IMPACTS OF PROPOSED PROJECT ALTERNATIVES**

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
1. Agricultural Land	Potential loss of 2,640 acres of Ag. land	Potential Loss of 500–1,000 acres of Ag. land	No projected loss of Ag. land
Mitigation Measures:	<p>Policies to prevent premature development of Ag. land; require appropriate buffers; prevent speculative designation of Ag. land for urban uses. Specific mitigation measures are as follows:</p> <p>A. Minimize disruption to agriculture by maintaining a compact urban form and by directing new growth to areas containing the least productive agricultural land.</p> <p>B. Retain in agricultural production throughout the planning period all agricultural land designated as such on the General Plan Map.</p> <p>C. Encourage and promote development of vacant and under-utilized land, thereby preventing urban sprawl.</p>	Same as proposed project	None required
		Same as proposed project	None required
		Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
1. Agricultural Land Mitigation Measures (continued):			
	D. Annexation of agricultural property for speculation purposes shall be strongly discouraged.	Same as proposed project	None required
	E. Request that the Imperial County Planning Commission and Board of Supervisors coordinate with the City to prevent premature development of agricultural land within the Sphere of Influence Planning Area.	Same as proposed project	None required
	F. Encourage the development of compatible land uses which will enhance the quality of life in the City of Imperial. Increase land use compatibility to the maximum extent possible.	Same as proposed project	None required
	G. Eliminate non-conforming land uses within the General Plan area by the year 2015.	Same as proposed project	None required
	H. Encourage an orderly conversion of land uses while simultaneously protecting those lands best suited for non-urban uses.	Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
1. Agricultural Land Mitigation Measures (continued):			
I. Provide appropriate buffers between agricultural land and urban use land. A minimum 300 foot buffer strip shall be provided.	Same as proposed project	Same as proposed project	None required
J. The premature development of non-contiguous areas to the City shall not be permitted.	Same as proposed project	Same as proposed project	None required
K. Prevent an urban sprawl development pattern through control of the Site Plan and Subdivision Approval Process; thereby ensuring development projects are consistent with the goals, objectives and policies of the General Plan.	Same as proposed project	Same as proposed project	None required
L. Adopt appropriate zoning classifications to protect prime agricultural lands.	Same as proposed project	Same as proposed project	None required
M. Adopt and periodically review agricultural zoning regulations to determine if additional agricultural zoning districts can be implemented to protect prime farmlands.	Same as proposed project	Same as proposed project	None required
N. Periodically review the official zoning map to determine if additional agricultural land can be designated on the zoning map.	Same as proposed project	Same as proposed project	None required

**Environmental  
Issue/Impact**

**Proposed Project**

**Modified General Plan**

**No Project**

<p>1. Agricultural Land Mitigation Measures (Continued):</p>	<p>O. Prevent premature conversion of agricultural land to urban uses through control of zoning changes.</p>	<p>Same as proposed project</p>	<p>None required</p>
<p>P. Establish zoning regulations to reduce conflicts between agricultural and adjacent or nearby non-agricultural urban uses.</p>	<p>Same as proposed project</p>	<p>None required</p>	
<p>Q. Require appropriate buffers between agricultural and urban land uses when zone changes are granted or when subdivisions are approved.</p>	<p>Same as proposed project</p>	<p>None required</p>	
<p>R. Identify and encourage conservation of prime agricultural lands in and adjacent to the City of Imperial.</p>	<p>Same as proposed project</p>	<p>None required</p>	
<p>S. Classify prime agricultural lands.</p>	<p>Same as proposed project</p>	<p>None required</p>	
<p>T. Include a soils classification map in the General Plan showing the classification of soils in and around the City and their value for agricultural uses.</p>	<p>Same as proposed project</p>	<p>None required</p>	
<p>U. Include in the General Plan the Important Farmlands Map prepared by the State Department of Conservation.</p>	<p>Same as proposed project</p>	<p>None required</p>	

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
<b>2. Wildlife</b>			
a. Burrowing Owl	Potential impact to Burrowing Owl habitat.	Same as proposed project	No Impact
Mitigation Measures:	Survey development sites prior to start of construction; remove existing adult owls; construct artificial burrows; mark burrows near construction sites.	Same as proposed project	None required
b. Fish/Amphibians/ Reptiles	Potential elimination of wetland habitat along canals and drains	Same as proposed project	No Impact
Mitigation Measures:	Consult with Dept. of Fish and Game; possible streambed alteration agreement.	Same as proposed project	None required
3. Traffic	Increased traffic from the development of new urban uses (residential, commercial, and industrial) equals 200,120 ADT (average daily trips).	Same as proposed project except ADT equals 182,120	No Impact
Mitigation Measures:	Circulation systems improvements as outlined in the Appendix.	Same as proposed project	None required
4. Air Quality			
Fugitive Dust	Potential increase in PM-10 concentrations during construction and site grading.	Same as proposed project	No Impact

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
4. Air Quality (continued) Mitigation Measures:	Daily watering of sites to control dust.	Same as proposed project	None required
5. Water Quality  No significant impacts identified at this time.	Development of new industrial uses.	Same as proposed project	No Impact
Mitigation Measures:	Complete subsequent EIR when exact types of industrial uses are known; require appropriate permits from County Health Department and from EPA and State RWQCB.	Same as proposed project	None required
6. Soils  Erosion by wind and water	Disturbance of soils during construction of new residential, commercial, and industrial projects.	Same as proposed project	No Impact
Mitigation Measures:	Require grading and drainage plan prepared by registered engineer to control erosion on and off site.	Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
7. Cultural and Historical Resources			
Potential damage to or elimination of historic resources along the ancient Mesquite Lake Shoreline.	Historic sites and artifacts could be disturbed or destroyed.	Same as proposed project	No Impact
Mitigation Measures:	Developers to contact City in the event archeological resources are discovered during excavation or construction. Archeologist to evaluate discovery before operations continue.	Same as proposed project	None required
8. Public Facilities (Schools)			
Potential impact to Imperial School District due to increased enrollments which would require new schools.	Potential increase of 4,915 students by year 2015	Potential Increase of 3,000 students by year 2015	No Impact
Mitigation Measures:	Construction of five (5) new schools. Assessment of \$6,500 per dwelling unit.	Construction of three (3) new schools. Assessment of \$6,500 per dwelling unit.	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
9. Utilities			
a. Electricity			
Increased demand for electricity	Requirement to generate an additional 16,414,000 KW/Hrs./month to accommodate new residential uses.	Need to generate an additional 12,414,000 KW/Hrs./month to accommodate new residential uses.	No Impact
Mitigation Measures:	Construct new distribution facilities and substations as required to meet demand.	Same as proposed project	None required
b. Natural Gas			
Increased demand for natural gas	Requirement to provide an additional 3,094,920 Therms/Year for new residential units.	Requirement to provide an additional 2,374,920 Therms/Year for new residential units.	No Impact
Mitigation Measures:	Construct new distribution facilities as required to meet demand.	Same as proposed project.	None required
c. Telephone Communications			
Increased demand for new lines	Provide 17,194 new lines for residential uses.	Provide 13,194 new lines for residential uses.	No Impact

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No. Project</u>
<p>9. c. Telephone Communications (continued)</p> <p>Mitigation Measures: Run additional cables and increase switching capability.</p>		Same as proposed project	None required
<p>d. Wastewater Treatment</p> <p>Increased waste-water flow from new development</p>	Flow projected to increase to 1.6 MGD in 2010 and to 2.1 MGD in 2015.	Flow projected to increase to 1.0 MGD in 2010 and to 1.5 MGD in 2015.	No Impact
<p>Mitigation Measures:</p>	Increase treatment capacity by construction of new sludge beds and by expansion of extended aeration facilities.	Same as proposed project	None required
<p>e. Water Treatment</p> <p>Increased demand for treated water</p>	Need for up to 7.8 MGD in summer and 4.6 MGD in winter.	Need for up to 5.4 MGD in summer and 3.2 MGD in winter.	No Impact
<p>Mitigation Measures:</p>	Construct improvements to increase treatment and storage capacity to meet need.	Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
10. Public Services			
Increased demand for police, fire, and solid waste disposal services.			
a. Police Services	Need to add 21 police officers and 6 support personnel by 2015.	Need to add 12 police officers and 3 support personnel by 2015.	No Impact
Mitigation Measures:	Add personnel as required.	Same as proposed project	None required
b. Fire Protection Services	Need to add up to 13 fire department personnel and construction of new east side fire station.	Same as proposed project	No Impact
Mitigation Measures:	Add personnel as required.	Same as proposed project	None required
c. Solid Waste Disposal	Generation of up to 36,988 tons/year from residential uses.	Generation of up to 28,988 tons/year from residential uses.	No Impact
Mitigation Measures:	1. Implement a curbside recycling program in the City of Imperial.	Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
<p>10. c. Solid Waste Disposal</p> <p>Mitigation Measures (continued):</p> <p>2. Use recycled building materials in the construction of structures. As an example, usable lumber from demolished structures should not be sent to the landfill.</p> <p>3. Include storage areas for recyclables in the design of residential, commercial, and industrial structures.</p> <p>4. Undertake a public information campaign to inform the residents of Imperial about the recycling programs and services in the area. Identify buy back centers and possible markets for recyclables in the area.</p> <p>5. Recommend to residents and businesses to recycle glass, metal, paper, cardboard and other materials to the maximum extent feasible.</p> <p>6. Recommend to residents and businesses to utilize products made from recycled materials to the maximum extent possible.</p>	<p>Same as proposed project</p>	<p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p>	<p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p> <p>None required</p>

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
<p>10. c. Solid Waste Disposal Mitigation Measures (continued):</p> <p>7. Recommend to residents and businesses to implement source reduction programs, such as, double sided copying to reduce the amount of solid waste produced.</p>		Same as proposed project	None required
<p>11. Public Health and Safety</p> <p>Potential exposure of the public to earthquake hazards and to noise, dust, and hazardous materials generated by new industrial uses. Potential exposure of persons and dwellings to localized flooding.</p>	<p>Potential construction of residences near earthquake faults; potential development of industrial uses near residential areas; possible flooding.</p>	Same as proposed project	No Impact
<p>Mitigation Measures:</p> <p>a. Enforce the performance standards contained in the zoning ordinance when new industrial uses are established.</p>		Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
11. Public Health and Safety Mitigation Measures (continued):	<ul style="list-style-type: none"> <li data-bbox="280 850 418 1501">b. Ensure the finished floor elevations for residences are a minimum of 16 inches above the top of the adjacent curb for flood protection.</li> <li data-bbox="459 850 638 1501">c. Ensure the requirements of the State Subdivision Map Act are complied with regarding the completion of a Soils Report and Geotechnical Analysis for every subdivision.</li> <li data-bbox="670 850 808 1501">d. Prohibit the construction of residential and commercial structures on or in close proximity to the Superstition Hill Fault.</li> <li data-bbox="849 850 1019 1501">e. Require grading and drainage plans prepared by a registered Civil Engineer be submitted for every subdivision to ensure proper drainage and control of stormwater.</li> <li data-bbox="1060 850 1125 1501">f. Prohibit the construction of residences within any identified Flood Hazard area.</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="280 325 321 735">Same as proposed project</li> <li data-bbox="459 325 500 735">Same as proposed project</li> <li data-bbox="670 325 711 735">Same as proposed project</li> <li data-bbox="849 325 889 735">Same as proposed project</li> <li data-bbox="1060 325 1101 735">Same as proposed project</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="280 52 321 252">None required</li> <li data-bbox="459 52 500 252">None required</li> <li data-bbox="670 52 711 252">None required</li> <li data-bbox="849 52 889 252">None required</li> <li data-bbox="1060 52 1101 252">None required</li> </ul>

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
11. Public Health and Safety Mitigation Measures (continued):	<p>g. Ensure that all industrial uses obtain the required permits from the County Health and Planning Departments, Federal Environmental Protection Agency, State Regional Water Quality Control Board, County Air Pollution Control Officer and other appropriate agencies.</p> <p>h. Require developers to fence and/or underground canals and drains located adjacent to residential subdivisions for safety purposes.</p>	Same as proposed project	None required
12. Visual Resources		Same as proposed project	None required
Potential obstruction of views from new development.	Potential construction of multiple story buildings.	Same as proposed project	No Impact
Mitigation Measures:	<p>a. Require developers of projects to submit landscaping plans and to provide appropriate landscaping for all new projects, thereby improving the visual aesthetics in the General Plan area.</p> <p>b. Enforce the height limits as contained in the zoning ordinance.</p>	Same as proposed project	None required

<u>Environmental Issue/Impact</u>	<u>Proposed Project</u>	<u>Modified General Plan</u>	<u>No Project</u>
<p>12. Visual Resources Mitigation Measures (continued):</p> <p>c. Require appropriate screening of commercial and industrial projects in order to improve visual aesthetics of these projects. Screening should consist of solid masonry walls, dense landscaping, or a combination thereof.</p>		Same as proposed project	None required
<p>13. Vegetation</p> <p>Impacts to vegetation during the development of new uses.</p> <p>Mitigation Measures:</p>	<p>Potential elimination of wetland vegetation along canals and drains.</p> <p>Possible need for streambed alteration agreement. Contact Department of Fish and Game when canals or drains are proposed for undergrounding.</p>	Same as proposed project	No Impact  None required

CITY OF IMPERIAL  
ENVIRONMENTAL IMPACT REPORT  
GENERAL PLAN REVISION PROJECT

**I. INTRODUCTION**

This Environmental Impact Report (EIR) is being prepared according to the provisions of the California Environmental Quality Act (CEQA). The purpose of this document is to assess the significant impacts to the environment from the full implementation of the revised (1992) City of Imperial General Plan. Discussion of alternate projects, including a no project alternative, is also included in this report. An analysis of the following items is included in this EIR:

1. Any significant irreversible environmental changes which would be involved in the proposed project should it be implemented.
2. The growth inducing impacts of the proposed project.
3. The relationship between local short-term uses of the environment and the maintenance and enhancement of long term productivity.
4. Mitigation measures proposed to minimize the significant effects on the environment.
5. Any significant environmental effects which cannot be avoided if the project is implemented.

This document will function as an information source regarding the probable significant environmental impacts. As such, it will be used by the City Council when

considering the adoption of the revised General Plan. The City Council may approve the revised General Plan even though significant impacts have been identified in this document.

However, in order to do this, the Council must make specific findings, adopt appropriate mitigation measures and adopt a statement of overriding consideration. The City Council is also required to certify as to the adequacy of the environmental review as contained in the Final Environmental Impact Report.

This document will be used by responsible agencies as well as by the lead agency, which is the City of Imperial. The Draft EIR will be circulated for review and written comments will be received by the City of Imperial. The Final EIR will contain all the written comments received and responses to those comments.

## **II. PROJECT DESCRIPTION**

The City Council of the City of Imperial has determined that the City's General Plan is out of date and in need of revision. The City has retained a Consultant, The Holt Group, to revise and update the City's General Plan.

The General Plan Revision Project will include the revising and updating of all seven mandatory General Plan elements as required by California State Law. The seven mandatory elements include the Land Use, Circulation, Conservation, Open Space, Noise, Safety and Housing Elements. In addition, the revised General Plan will include three optional elements. The optional elements are the Public Facilities, Parks and Recreation, and Airport Elements.

The revised General Plan will project the future growth of the City to the year 2015. Thus, the Planning Horizon for the Revised General Plan will be approximately twenty-three (23) years. It is anticipated that the City will experience substantial

growth during this future twenty-three (23) year period. Two of the factors causing growth within the City include the new General Dynamics plant and the construction of a new state prison at the Dixieland Ranch approximately 11 miles west of Imperial. According to the EIR prepared for the state prison, the prison could eventually employ up to 1,207 people at 190% occupancy. Many of these employees could choose to reside in Imperial in one of several new developments. The current (1992) population of the City is approximately 5,000. The population is projected to increase by 14,500 to a total population of 19,500 in the year 2015.

The revised General Plan includes a planning area of approximately 10,048 acres, which includes all of the City's Sphere of Influence. It is anticipated that the vast majority of this land will remain in active agricultural production through the year 2015. The existing (1992) City limits contain approximately 1,986 acres. It is anticipated that the City limits will contain approximately 7,256 acres by the year 2015. Approximately 2,640 acres of agricultural land are proposed to be converted to urban uses by the year 2015. The conversion of agricultural land to urban uses is considered a significant environmental impact and this issue is explored in detail in this EIR. The urbanized area of the City in the year 2015 is projected to include a total of 7,256 acres. The specific land uses and acreages contained in the revised General Plan Land Use Element are as follows:

	<u>Land Use</u>	<u>Acres</u>
1.	Rural Residential	528.5
2.	Low Density Residential	2,992.1
3.	Low Medium Density Residential	1,132.1
4.	Residential Condominium	7.3
5.	Multiple Family Rental Residential	120.2
6.	Mobile Home Park	69.8
7.	Village Commercial	14.2
8.	Neighborhood Commercial	443.9

	<u>Land Use</u>	<u>Acres</u>
9.	Auto Mall	82.2
10.	Commercial Office	85.3
11.	General Industrial	395.3
12.	Rail Served Industrial	789.4
13.	Agricultural	2,803.7
14.	Public Use	<u>584.4</u>
	TOTAL ACREAGE	<u>10,048.40</u>

The density of residential development will vary from a low of .5 DU/AC in the Rural Residential zone to a high of 30 DU/AC in the Multiple Family zone. It is anticipated that the revised General Plan will contain a policy statement which requires new development to be located adjacent to existing development. The purpose of this policy will be to prevent urban sprawl land use patterns and to minimize the adverse impacts to agricultural land. It is anticipated that the Circulation Element will contain very few new major arterial streets. Dogwood Road from Aten Road to Harris Road is proposed as a new major arterial. In addition, Neckel Road from Dogwood Road to Austin Road is also designated as a major arterial in the revised General Plan.

Regarding air transportation facilities, the Imperial County Airport will continue to serve the City through the year 2015. However, it is not anticipated that the airport runways will be expanded in the future. Therefore, the category of aircraft which the airport currently serves (mainly light aircraft and small commuter) is not anticipated to change. The revised General Plan contains mitigation measures to ensure residences are not constructed in high noise areas.

The primary objectives of the revised General Plan project are as follows:

1. Plan for the orderly future growth of the City to ensure that growth is

controlled in such a manner as to prevent incompatible land uses and to enhance the quality of life.

2. Promote economic development within the City, thereby creating new jobs.
3. Ensure adequate infrastructure and utility systems are in place to accommodate new development.

This Environmental Impact Report will be used by the Imperial City Staff, Planning Commission and City Council to evaluate the potential environmental impacts of the revised General Plan. The following additional agencies will use this EIR to evaluate the potential effects of the project as they relate to each agency's area of responsibility:

1. Imperial County Planning Department
2. Imperial County Health Department
3. Imperial County Agricultural Commissioner and Air Pollution Control Officer
4. Imperial County Chief Administrative Officer
5. Imperial County Board of Supervisors
6. Imperial County Local Agency Formation Commission
7. Imperial County Airport Land Use Commission
8. Imperial County Planning Commission
9. Imperial County Sheriffs Department
10. Imperial County Fire Department
11. California State Department of Corrections
12. California Department of Fish and Game
13. California Department of Conservation
14. California Highway Patrol

15. California Regional Water Quality Control Board
16. California Department of Transportation - District 11
17. California Department of Transportation - Division of Aeronautics
18. U.S. Fish and Wildlife Service
19. U.S. Department of Agriculture - Soil Conservation Service
20. U.S. Environmental Protection Agency
21. U.S. Bureau of Land Management
22. Imperial Irrigation District
23. Southern California Gas Company
24. Pacific Bell Telephone Company
25. Century Cable Company
26. Southern California Association of Governments
27. Imperial Unified School District

### III. ENVIRONMENTAL SETTING

#### A. Location and Elevation

The City of Imperial is located in the Imperial Valley Area of Imperial County, in the southeastern portion of the State. The City is approximately 15 miles north of Mexicali, Mexico and 81 miles south of Indio, California. The City is located at an elevation of 56 feet below sea level.

#### B. Climate

The climate of the Imperial Valley Area is a desert product. The winters are mild with an average high temperature in January of approximately 68 degrees. The average daily low temperature in January is approximately 43 degrees. The summers are hot with an average daily high temperature of approximately 106 degrees in July. The average low temperature is

approximately 75 degrees in July. The Imperial Valley climate is very arid with an average annual rainfall of only 2.87 inches. June is the driest month of the year. Most of the rainfall occurs during the August to September and November to March periods. The summer rainfall is caused by thunderstorms and tropical storms penetrating northward from the Gulf of California. The prevailing winds are from the west and southwest. Wind speed varies greatly with the highest average wind speeds occurring during the spring months of April and May. During these months, the maximum wind speeds can be 25 MPH or greater during the afternoon and evening hours.

C. Air Quality

The lower desert-type climate of Imperial County is typically well suited for good air quality because of the large dispersive capacity of the desert atmosphere. Uneven distribution of heating and cooling and low frictional drag from limited vegetation create strong winds that prevent significant pollution stagnation. Subsidence inversions that form in California coastal environments rarely occur over the desert and when they do form, their bases are so high as to have little impact on regional dispersion patterns. Low-level radiation inversions occur on most nights in low-lying areas and trap pollutants near their source, but burn off rapidly after sunrise.

Whereas gaseous pollutant dispersion benefits from the strong winds and convective overturning, these same conditions lead to high dust levels, especially because of the low annual rainfall of only 2 to 3 inches and agricultural tillage. Disturbed desert soils are easily lifted into the air by turbulent motion with a resulting regional degradation of particulate air quality. Whenever the "desert pavement" crust is broken, the soil remains susceptible to wind erosion with the smallest dust particles carried for many

miles before they are removed by gravitational settling. Without much moisture to help reform the protective soil crust, such erosion not only occurs after soil disturbance, but continues for a considerable period into the future.

D. Geology

The proposed project site is located in the Salton Trough, a structural basin which has been described by various authors as both a distinct physiographic province and a subprovince of the Colorado Desert. The Salton Trough includes Imperial and Coachella Valleys (as well as portions of Northern Mexico), and consists of a depressed crustal block located within a complex plate boundary zone. The principal structural features within this zone are a series of parallel transform faults which include the San Andreas, San Jacinto and Elsinore fault zones.

The Salton Trough is characterized by a generally low-lying alluviated basin with internal drainage and relatively low relief. Typical stratigraphy includes up to 21,000 feet of late Cenozoic sediments and metasediments deposited primarily by the Colorado River (Gilmore et al 1983). Additional sources of sedimentation include wind (eolian) and lake (Lacustrine) deposition, as well as the erosion of adjacent mountains.

E. Vegetation

The project site area is largely devoid of native vegetation due to the extensive agricultural cultivation which has taken place in the vicinity of Imperial over the last 80 years. The currently existing vegetation on the agricultural lands includes such crops as Sugar Beets and Alfalfa. Where agricultural crops are absent on fallow land, the high incidence of

disturbance has reduced the diversity of herbs in this habitat, making common Bermuda Grass a near monoculture in these areas. Other characteristic species include Slender Wild Oat, Rabbitfoot Beardgrass and Common Horseweed. The agricultural drains within the project area provide a riparian environment for such plants as arrowweed, wild rye, rabbitfoot beardgrass, and goosefoot. Disturbed ground is generally colonized by a dense to sparse cover of annual grasses often associated with numerous species of native and non-native annual forbs, especially in years of high rainfall.

F. Soils

The soil types in the project area can be determined by referring to the Imperial County Soil Survey as prepared by the Soil Conservation Service and the University of California Agricultural Experiment Station. The following soils are represented in the project area:

1. Imperial Silty Clay, Wet
2. Imperial - Glenbar Silty Clay Loams, Wet
3. Holtville, Silty Clay, Wet
4. Indio Loam, Wet
5. Meloland and Holtville Loams, Wet
6. Meloland Very Fine Sandy Loam, Wet
7. Glenbar Clay Loam, Wet
8. Vint and Indio Very Fine Sandy Loams, Wet
9. Indio - Vint Complex
10. Vint Loamy Very Fine Sand, Wet

The vast majority of soils in the project area are either Imperial Silty Clay, Wet, or Imperial-Glenbar Silty Clay Loams, Wet, on 0 to 2 percent slopes.

Both of these soils have a high clay content and high shrink-swell potential. Foundations for buildings, patio slabs and other structures must be reinforced to prevent damage from the shrinking and swelling of these soils.

G. Wildlife

The wildlife in the project area is quite diverse and varies with the seasons. The greatest variety of wildlife can be seen in the winter months when large numbers of migrating waterbirds and other birds winter in the Imperial Valley. Almost the entire planning area has been developed with agricultural or other uses. Although no native wildlife habitat exists within the study area, natural wildlife habitat does exist throughout the area and in some cases even supports native plant species such as quailbush (*Atriplex* species). In addition, important wildlife habitat exists throughout the area in the form of intensively farmed and fallow agricultural fields. The bird species observed in the project area include Mourning Doves, Rock Doves, Red-Winged Blackbirds and Cattle Egrets. Burrowing Owls were also observed frequently in the project area. Waterbird species observed in the project area include Great Blue Heron, Black Necked Stilt, Whimbrel, Snowy Egret and Killdeer. The waterbird species are visitors from the Pacific Flyway, in which the Imperial Valley is located. These species use the area on more than a "casual" basis and are actually quite common in the area. Other waterbird species that may use the project sites and are known to use the Pacific Flyway corridor are listed in the Appendix.

The reptile and amphibian wildlife component of the majority of the proposed project area is expected to be typical of the agricultural areas of the Imperial Valley. Typical species include Side-blotched Lizard (*Uta stansburiana*), Western Whiptail (*Cnemidophorus tigris*), Gopher Snake (*Pituophis melanoleucus*), Common Kingsnake (*Lampropeltis getulus*), and Western

Diamond Rattlesnake (*Crotalus atrox*). Bullfrog (*Rana catesbeiana*) and Leopard Frogs (*Rana pipiens*) may occur within the irrigation canals. The Checkered Garter Snake (*Thamnophis marcianus*) may also occur within irrigation canals. The agricultural and disturbed riparian areas of the project study area may be expected to support the Deer Mouse (*Peromyscus maniculatus*), the Desert Mouse, Long-Tailed-Mouse and Spiny Pocket Mouse (*Perognathus penicillatus*, *P. formosus* and *P. spinatus*), House Mouse (*Mus musculus*), Botta Pocket Gopher (*Thomomys bottae*) and Round-tailed Ground Squirrel (*Spermophilus tereticaudus*) as the principal rodent species. Black-tailed Jack Rabbits (*Lepus californicus*) and Desert Cottontails (*Sylvilagus audubonii*) are found throughout the area with probable highest densities found within the disturbed riparian areas. Carnivores expected to occur within the study area include Coyote (*Canis latrans*), Gray Fox (*Urocyon cinereoargeneus*), Badger (*Taxidea taxus*), Striped Skunk (*Mephitis mephitis*) and Spotted Skunk (*Silogale putoris*).

The irrigation canals in the project area may support a variety of fish species that are common in the canals and drainages in the area. Catfish, Bass, Sunfish and Carp are known to use the canals for habitat. In addition, the Imperial Irrigation canals are currently stocked with Triploid Grass Carp (not a sports fish). Sperber and Oscar Fudge Reservoirs do provide sport fishing opportunities.

#### H. Water Resources

The project area receives water for domestic and agricultural irrigation purposes from the Colorado River, via the All-American Canal and other surface canals operated by the Imperial Irrigation District. The Imperial Irrigation District is a responsible agency as defined under 14 CCR Section 15381. Furthermore, the District possesses jurisdiction by law under 14 CCR

Section 15366(a)(3), which entitles it to exercise authority over resources which may be affected by the project. In addition, the District has the potential to provide wholesale water and wastewater treatment services. Any District services would only be in response to agreements with the City and would include the required environmental documents. Water for domestic purposes is treated before it is distributed to customers.

The Central Main Canal is located along the western boundary of the project area and is a large canal approximately 25 feet wide. This is one of the three major canals supplying water throughout the Imperial Valley. The two other major canals include the East Highline Canal and the West Side Main Canal. There are no natural lakes in the project area. Agricultural runoff is controlled by a series of man-made drains which carry the water ultimately to the Salton Sea. The Salton Sea is located in the region and is a large inland body of water. The Salton Sea is located approximately eighteen (18) air miles northwest of the project area.

#### **IV. ENVIRONMENTAL ANALYSIS, IMPACTS AND MITIGATION MEASURES**

##### **A. Introduction**

This section will address the identified Environmental Impacts that are anticipated to occur with full development of the General Plan area. This section will also outline proposed mitigation measures to mitigate the effects of the identified impacts.

B. Wildlife

1. Wildlife Species of Special Significance

Six bird species listed as declining or as species of special concern were observed in the project area: Great Blue Heron (*Ardea herodias*), Turkey Vulture (*Cathartes aura*), Burrowing Owl (*Athene cunicularia*), White-faced Ibis (*Plegadis chihi*), Northern Harrier (*Circus cyaneus*), and Long Billed Curlew (*Numenius Americanus*). Mountain Plovers may also occur in the area during winter months. This species is currently undergoing consideration for listing under the Endangered Species Act. Both the Burrowing Owl and Turkey Vulture are considered to be sensitive in that they are birds of prey. Birds of prey as a group are considered sensitive because of loss of foraging habitat, their vulnerability to human disturbance, their low population densities and their position at the top of the food chain. The Great Blue Heron, Black Necked Stilt (*Himantopus mexicanus*), Whimbrel (*Numenius phaeopus*) and Snowy Egrets (*Egretta thula thula*) are visitors to the project area from the nearby refuges and flyways, but are not expected to use the project area for feeding or nesting. The Greater Sandhill Crane (*Grus Canadensis Tabida*) is found within the Imperial Valley in the winter months and is a migratory species listed by the State of California as a threatened species and as such are protected under the California Endangered Species Act. The winter roost site located north of Harris Road and east of Dogwood Road is mentioned in the Pacific Flyway Management Plan for the Lower Colorado River Valley Population of Greater Sandhill Cranes (1983). The Greater Sandhill Crane could be found within the project area using the agricultural fields for loafing habitat.

## 2. Impacts

Development of the project site with new urban uses will result in a loss of open space wildlife habitat for those species normally occurring within farmland areas. This would also include reduction of foraging habitat for raptors and mammalian carnivores. However, except for the proposed urban use areas, most of the project area will continue to be left as open agricultural fields. As such, most of the foraging habitat will remain, although the increase in human activity in these areas may affect the foraging behavior of wildlife. Overall development of urban uses will not have a significant affect on migrating and resident waterfowl and water birds, nor on terrestrial-oriented species utilizing the vegetation within and around these areas.

The only identified potential significant impact will be to the Burrowing Owls that may occupy any portion of the open drains in those areas proposed to be converted to urban uses. Burrowing Owls primarily inhabit drain banks and agricultural field borders. Mortalities to this sensitive bird species would represent a significant, adverse, but mitigable impact. Any loss of Burrowing Owls is considered significant due to the fact that they are declining throughout much of their range in California.

No sensitive mammal species were observed or are expected to occur in the project area.

The conversion of some agricultural land to urban uses will probably result in the undergrounding of currently open irrigation canals and drains. This will remove some wetland habitat along the canals and

drains. The elimination of this wetland habitat will impact such species as the Bullfrog (*Rana catesbeiana*), Leopard Frog (*Rana pipiens*) and Checkered Garter Snake (*Thamnophis marcianus*). These species are not listed as endangered or threatened by either the State or Federal Government. No sensitive fish were observed in canals within the project area or are expected to occur. The undergrounding of canals and drains will remove some potential fisheries and amphibian habitat which will require coordination with the California Department of Fish and Game to develop suitable mitigation measures.

### 3. Mitigation Measures

Impacts to the wetland habitat along the canals will require consultation with the California Department of Fish and Game and the possible need for a Streambed Alteration Agreement. Potential impacts to Burrowing Owls can be effectively mitigated by careful planning and implementation of development and construction activities which can eliminate direct mortalities. Burrowing Owls demonstrate four seasonal patterns of activity: wintering, incubation, fledgling and post breeding. These owls will pair and lay eggs by late February/early March during which "site attachment" increases. Mitigation measures to preclude or minimize burrow selection in development areas by the migrating or pairing owls include the following:

- A qualified ornithologist shall conduct a December/January survey of the project site development areas for all active or potentially active owl burrows. These burrows shall be flagged or otherwise marked for relocation. Artificial burrows per

Collins (1979) or burrow starts (Coulombe 1971) shall be created in the neighboring undeveloped area for each of the burrows detected on the development site.

- If present in the burrows on the development site, adult owls shall be carefully removed from their burrows by late January by a qualified ornithologist and immediately the burrow sites shall be destroyed by scraping or filling to prevent the re-entry of the burrows within the development area.
- In addition, burrows located nearest the development site, yet not directly affected by the construction, shall have their entrances marked by temporary fencing or stacked hay bales. This measure is not meant to prohibit access to the burrow by the owls, but to provide a barrier to the construction activity. In particular, the stacked hay bales provide not only a visual barrier for the burrow entrance; yet have been observed to function as a perch site for the territorial pair.

## C. Vegetation

### 1. Representative Vegetation

The majority of the General Plan project area consists of agricultural lands, either fallow or commonly planted in alfalfa. Other vegetative communities include disturbed wetland habitat in the irrigation canals and drains, tamarisk scrub, disturbed grasslands and non-native weeds. The only perennial water supply in the project area is found in the irrigation canals and drains.

2. Plant Species of Special Significance

High-interest plants include those listed by the U.S. Fish and Wildlife Services, California Department of Fish and Game (CDFG) and California Native Plant Society. The California Native Plant Society Listing is sanctioned by the California Department of Fish and Game and essentially serves as its list of "candidate" species for threatened or endangered status.

None of the plant species observed or expected to occur in the project area are currently listed as endangered, threatened or sensitive by the U.S. Fish and Wildlife Service (USFWS 1985), the California Department of Fish and Game (CDFG 1985) or the California Native Plant Society.

The U.S. Army Corps of Engineers regulates development within wetland areas of the United States. Irrigation and drainage canal habitats are exempt, however, from wetland permitting requirements by the U.S. Army Corps of Engineers. The California Department of Fish and Game may recognize the canals as wetland habitat which may require a streambed alteration agreement.

3. Impacts

Development of the project area will result in the loss of agricultural land, disturbed grassland habitat and loss of canal habitat. Because of the high level of disturbance of the vegetative communities within the proposed development areas, development will not result in a significant impact on valuable vegetation or wildlife habitat. Irrigation Canal Habitat is exempt from the Permitting Requirements of the

Corps of Engineers, which include drainage maintenance. However, drainage construction is not exempt. The conversion of agricultural land to urban uses will occur gradually over a projected 20-25 year period. Since the City is surrounded by agricultural land, the City could not grow unless some agricultural land is converted to urban uses.

4. Mitigation Measures

Impacts to the wetland habitat along the canals and drains may require consultation with the Department of Fish and Game and the possible need for a streambed alteration agreement to mitigate the potential impacts from loss of wetland habitat. During the draining of canals and prior to conversion to underground pipeline facilities, the Department of Fish and Game may be contacted to capture the fish and amphibians affected by the development project. These species can then be transferred to other suitable habitats.

D. Agricultural Resources

1. Quality of Farmland

The vast majority of farmland in the revised General Plan Area is classified as farmland of statewide importance by the State Department of Conservation. Of the 2,640 acres proposed for conversion to urban uses, approximately 798 acres, or 30% of this total is classified as prime farmland. A small proportion is classified as farmland of local importance.

The types of crops that could be grown and the potential yield for these typical crops with good agricultural management are as follows:

Yields Per Acre of Irrigated Crops

<u>Soil Type</u>	<u>Crop</u>	<u>Potential Yield</u>
Imperial Silty Clay - Wet	Alfalfa Hay	5 Tons
Imperial Silty Clay - Wet	Barley	75 Bu
Imperial Silty Clay - Wet	Cantaloupe	5 Tons
Imperial Silty Clay - Wet	Carrots	10 Tons
Imperial Silty Clay - Wet	Cotton Lint	1,000 Lbs.
Imperial Silty Clay - Wet	Lettuce	6 Tons
Imperial Silty Clay - Wet	Sugar Beets	23 Tons
Imperial - Glenbar Silty Clay Loams - Wet	Alfalfa Hay	6.5 Tons
Imperial - Glenbar Silty Clay Loams - Wet	Barley	8 Bu
Imperial - Glenbar Silty Clay Loams - Wet	Cantaloupe	5 Tons
Imperial - Glenbar Silty Clay Loams - Wet	Carrots	13 Tons
Imperial - Glenbar Silty Clay Loams - Wet	Cotton Lint	1,375 Lbs.
Imperial - Glenbar Silty Clay Loams - Wet	Sugar Beets	26 Tons

The above identified crops are the crops that are typically grown on these soil types. Crops which are not listed are not normally grown on these soils because the soils are not well suited to growing the crop.

2. Impacts

The development of new projects within the revised General Plan Area will convert prime farmland to urban uses. The farmland that is projected to be developed with urban uses is classified as either farmland of statewide importance, prime farmland, or farmland of local importance. The projected conversion of approximately 2,640 acres from agricultural uses to urban uses by the year 2015 is considered a significant impact. However, it is anticipated the projected new development will be located adjacent to existing development in the City. This will prevent an urban sprawl development pattern and will minimize the impacts to adjacent farmland. Since the City of Imperial is surrounded by farmland, the City could not grow unless some farmland is taken

out of production.

### 3. Mitigation Measures

The revised General Plan Land Use, Open Space and Conservation Elements will contain policies to protect farmland from premature development and to ensure that new development takes place adjacent to existing development. In addition, appropriate policies will be included in the revised General Plan to require buffers between development projects and surrounding agricultural uses, thereby minimizing the impact to surrounding agricultural uses. The revised General Plan anticipates that 2,640 acres will be converted from agricultural uses to urban uses by the year 2015. This figure represents approximately 26% of the total planning area of 10,048 acres. However, the conversion of the projected 2,640 acres of farmland to urban uses by the year 2,015 is unavoidable if the City is to grow and provide for the housing and commercial needs of an increasing population. The below outlined mitigation measures will ensure that the City grows in a controlled and orderly fashion and that the minimum amount of farmland is taken out of production in the future to provide for desired growth in the City.

- a. Minimize disruption to agriculture by maintaining a compact urban form and by directing new growth to areas containing the least productive agricultural land.
- b. Retain in agricultural production throughout the planning period all agricultural land designated as such on the General Plan Map.
- c. Encourage and promote development of vacant and under-utilized land, thereby preventing urban sprawl.

- d. Annexation of agricultural property for speculation purposes shall be strongly discouraged.
- e. Request that the Imperial County Planning Commission and Board of Supervisors coordinate with the City to prevent premature development of agricultural land within the Sphere of Influence Planning Area.
- f. Encourage the development of compatible land uses which will enhance the quality of life in the City of Imperial. Increase land use compatibility to the maximum extent possible.
- g. Eliminate non-conforming land uses within the General Plan area by the year 2015.
- h. Encourage an orderly conversion of land uses while simultaneously protecting those lands best suited for non-urban uses.
- i. Provide appropriate buffers between agricultural land and urban use land. A minimum 300 foot buffer strip shall be provided.
- j. The premature development of non-contiguous areas to the City shall not be permitted.
- k. Prevent an urban sprawl development pattern through control of the Site Plan and Subdivision Approval Process, thereby ensuring development projects are consistent with the goals, objectives and policies of the General Plan.
- l. Adopt appropriate zoning classifications to protect prime agricultural lands to the extent feasible.

- m. Adopt and periodically review agricultural zoning regulations to determine if additional agricultural zoning districts can be implemented to protect prime farmlands.
- n. Periodically review the official zoning map to determine if additional agricultural land can be designated on the zoning map.
- o. Prevent premature conversion of agricultural land to urban uses through control of zoning changes.
- p. Establish zoning regulations to reduce conflicts between agricultural and adjacent or nearby non-agricultural urban uses.
- q. Require appropriate buffers between agricultural and urban land uses when zone changes are granted or when subdivisions are approved.
- r. Identify and encourage conservation of prime agricultural lands in and adjacent to the City of Imperial.
- s. Classify prime agricultural lands.
- t. Include a soils classification map in the General Plan showing the classification of soils in and around the City and their value for agricultural uses.
- u. Include in the General Plan the Important Farmlands Map prepared by the State Department of Conservation.

## E. Traffic Related Impacts and Mitigation Measures

### 1. Project Related Traffic Impacts

The full development of the land uses depicted in the revised General Plan will result in some increase in traffic within the City, however, the revised General Plan circulation element outlines roadway and signal improvements which will mitigate the projected traffic impacts. The projected traffic impacts from the proposed new residential development can be determined as follows based on a density of 5.0 dwelling units per acre for the low-medium density residential development, 30 dwelling units per acre for the multiple family residential development, 1.0 dwelling unit per acre for the rural residential development, 2.0 dwelling units per acre for the low density residential development, and 5.0 dwelling units per acre for the Mobile Home Park development.

#### Rural Residential Development:

500 Acres x 1.0 DU/Ac. = 500 Dwelling Units

500 DU's x 9 ADT per DU = 4,500 ADT

#### Low Density Residential Development:

2,580 Acres x 2.0 DU/Ac. = 5,160 Dwelling Units

5,160 DU's x 9 ADT per DU = 46,440 ADT

#### Low-Medium Density Residential Development:

850 Acres x 5.0 DU/Ac. = 4,250 Dwelling Units

4,250 DU's x 9 ADT per DU = 38,250 ADT

Multiple Family Residential Development:

130 Acres x 30 DU/Ac. = 3,900 Dwelling Units

3,900 DU's x 7 ADT per DU = 27,300 ADT

Mobile Home Park Development:

70 Acres x 5.0 DU/Ac. = 350 Dwelling Units

350 DU's x 6 ADT per DU = 2,100 ADT

The total ADT (average daily trips) that could be anticipated with full development of all General Plan residential uses would be 118,590 ADT. The potential traffic generated from the commercial and industrial development areas cannot be calculated exactly at this time due to the fact that the exact types and intensities of uses are unknown. However, traffic studies have been done for various commercial and industrial uses. For example, a neighborhood shopping center generates between 800 - 1064 ADT per net acre.<sup>1</sup> A regional shopping center generates between 149 - 671 ADT per net acre.<sup>2</sup> An industrial park generates between 52 - 140 ADT per gross acre and a mass production assembly plant generates between 38 and 191 ADT per net acre.<sup>3</sup> For the purposes of this analysis, it will be assumed that four (4) neighborhood shopping centers averaging ten (10) acres each will be developed during the planning period and that one (1) regional shopping center comprising thirty (30) acres will be developed. In addition, it will be assumed that an industrial park of 80 gross acres will be developed and that a mass production manufacturing

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<sup>1</sup> Transportation and Land Development  
(Institute of Transportation Engineers) - 1988, Page 30.

<sup>2</sup> IBID

<sup>3</sup> IBID

assembly plant comprising forty (40) net acres will be developed during the planning period. Based on these assumptions for new commercial and industrial uses, the traffic impacts would be as follows:

Commercial Development(Assumptions)

1. Four (4) neighborhood shopping centers at 10 net acres each equals 40 total acres. 40 net acres x 1,064 ADT per net acre equals 42,560 ADT.
2. One (1) regional shopping center at 30 net acres x 671 ADT per net acre equals 20,130 ADT.

Total traffic generated by the projected commercial uses is 42, 560 ADT + 20, 130 ADT equals a total of 62,690 ADT.

Industrial Development(Assumptions)

1. Industrial park of 80 gross acres x 140 ADT per gross acre equals a total of 11,200 ADT.
2. Mass production manufacturing assembly plant of 40 net acres x 191 ADT per net acre = 7,640 ADT.

Total traffic generated by the projected industrial uses is 11,200 ADT + 7,640 ADT = 18,840 ADT.

In order to assess the potential impacts of the above outlined residential, commercial, and industrial uses, specific sites must be identified. For the residential uses, the sites are as identified in the General Plan Land Use Element. It is assumed that the industrial uses will be developed adjacent to

the Imperial County Airport and will have primary access from Aten Road. It is assumed the regional shopping center will be developed along the State Highway 86 corridor with primary access from State Highway 86. It is assumed that the neighborhood commercial uses will be developed at the intersection of Aten Road and Dogwood Road, at the intersection of Worthington Road and Dogwood Road, and at the intersection of Neckel Road and State Highway 86. Both Highway 86 and Aten Road are currently four (4) lane major arterials. Dogwood Road is proposed to become a four lane major arterial in the future according to the General Plan Circulation Element. The existing circulation system and the proposed improvements to the circulation system as outlined in the General Plan should mitigate the traffic impacts as outlined above to a level of insignificance. The major circulation system improvements as outlined in the General Plan are contained in the Appendix of this document.

## F. Air Quality

### 1. Regional Air Resources and Air Quality

The entire Imperial County area is located within the Southeast Desert Air Basin (SEDAB). The SEDAB includes the Antelope, Coachella and Imperial Valley Areas of Southern California and extends eastward to the California Border. Although the air basin concept suggests that air quality conditions are somewhat uniform within each basin, that is certainly not true within the SEDAB. Close to the Los Angeles urban area, photochemical smog blowing into the desert is the major air quality problem. In Imperial County, particulate matter, especially emissions from agricultural activities, including dust generated from disturbed soils, is the primary air quality concern. Air quality associated with regulated gaseous emissions is recognized as being excellent.

## 2. Health Effects of Air Pollutants on Specific Land Uses

Air pollutants are recognized to have a variety of health effects on humans. Hazardous health effects are especially pronounced for "sensitive receptors": (1) Children under 5 years of age; (2) Individuals with respiratory and cardiovascular problems; (3) Persons over 65; and (4) Athletes. Effects range from eye irritation to respiratory diseases such as emphysema. When absorbed into the blood stream, CO, O<sub>3</sub> and NO<sub>x</sub>, reduce the oxygen-carrying ability of hemoglobin. Suspended particulate matter, (SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub>) can trigger respiratory diseases such as asthma, bronchitis and lung cancer. Urban populations are usually exposed to low levels of high pollutant dosages over long periods of time; death may result from short-term exposure to those dosages. Land uses such as schools, hospitals and convalescent homes are considered to be relatively sensitive to poor air quality conditions because of their association with sensitive receptors. Agricultural crops, especially broad-leaved produce crops and cultivated flowers, are also sensitive to air pollutants such as O<sub>3</sub>, NO<sub>x</sub> and SO<sub>2</sub>. Residential areas are sensitive to air pollutants because the long periods of time that people are at home extends their exposure time. Industrial and commercial uses are generally less sensitive because human exposure periods are usually shorter. Recreational uses are moderately sensitive to air pollution because, although exposure periods are generally short, vigorous exercise places a high demand on human respiratory functions, which air pollution can impair.

### 3. Imperial County Air Quality

A limited amount of air pollution data is collected by the Air Resources Board in the Imperial Valley area. The Appendix summarizes the maximum pollutant values observed since 1984 at three ARB monitoring stations (Calexico, Brawley and El Centro). The El Centro monitoring station collects data for O<sub>3</sub>, TSP, and PM-10, while the Brawley station only measures TSP and PM-10. The Calexico station only monitors for particulates, PM-10 and TSP. Therefore, the combined information from all three stations should represent the air quality conditions for all of the project area. These values can be compared with the State and Federal Standards shown in the Appendix. It should be noted that the Federal TSP Standards of 260 ug/m<sup>3</sup> (24-hour) and 75 ug/m<sup>3</sup> (annual) were replaced by the 10 ug particulate matter (PM-10) standards promulgated in 1987. As indicated in the table, gaseous pollution levels are generally below standards and particulate levels exceed standards. Ozone has exceeded Federal Standards one year in the past four recorded years, although violating the State Standard 16 days that year. Particulate matter, on the other hand, is among the highest in all of California. Dust levels have exceeded the Federal TSP and State Standards for TSP and PM-10 during 3 of the last 4 years at both Brawley and El Centro; dust measurements were somewhat higher in the El Centro area. Because the Imperial Valley is expected to continue as a major agricultural producer well into the future, it is anticipated that violations of State and Federal particulate standards will likewise continue. The area will remain a "nonattainment area" for air-borne particulate matter.

#### 4. Project Air Quality Impacts

The development of the General Plan Area with new urban uses will result in some significant air pollution. The impacts, however, can be mitigated to insignificant levels. Specifically, during construction of new homes, businesses and other structures, significant amounts of dust could be generated by earth moving equipment during site grading operations. This impact can be mitigated by requiring the Contractor to water the site on a daily basis as needed for dust control.

The air quality impacts associated with continuing agricultural operations is an existing impact and will not be addressed in this document. Significant agricultural related air quality impacts include dust during plowing and harvesting operations and smoke during the burning of fields. These impacts are significant, however, they currently affect all of Imperial Valley and are not a result of new development within the General Plan Area.

In actuality, the air quality impacts associated with farming operations will decrease due to the elimination of approximately 2,640 acres of agricultural land during the planning period. Therefore, locally generated particulate matter in the form of dust and smoke (PM-10) in the project area should reach a slightly lower level with conversion of the agricultural land. The urbanization of the project area will result in a substantial increase in vehicular traffic. The increase

in traffic will result in an increase in carbon monoxide, nitrogen oxides, particulates and reactive organic gases. However, because of the dispersive quality of the desert atmosphere, these impacts are not considered significant and should not cause a noticeable decrease in local air quality.

## G. Water Quality

### 1. Regional Water Resources and Water Quality

The entire Imperial Valley area receives water from the Colorado River via the All American Canal and other canal systems. This surface water is used for both agricultural purposes and for domestic purposes. The project area is located within the Imperial Valley Planning Area of the West Colorado River Basin, one of 16 hydrographic planning units established by the State Department of Water Resources and Regional Water Quality Control Boards. Most of the basin's interior drainage flows into the Salton Sea, a large artificial saline lake formed as a result of agricultural irrigation diversion from the Colorado River. The Salton Sea watershed includes all of Imperial Valley, where natural drainage is confined largely to the New and Alamo Rivers. These streams carry storm runoff and irrigation drainage from Imperial Valley and northern Mexico, with the New River draining the western portion of this area and the Alamo River draining the eastern Imperial Valley.

There are several small manmade lakes that are located north and northeast of the project area. These include Ramer Lake, Finney Lake and Wiest Lake. Ramer Lake and Finney Lake are within the Imperial Wildlife Management Area and are maintained by the California Department of Fish and Game for wildlife habitat. Wiest Lake is maintained by Imperial County as a recreation facility. The New and Alamo Rivers flow northward in the central portion of the Imperial Valley and eventually empty into the Salton Sea. The New River is highly polluted with sewage and industrial waste which originates in Mexicali, Mexico. The Alamo River is less polluted than the New River, however, water from either river is unsuitable for domestic use or for irrigation. Water moving through the All American Canal is of relatively good quality, with water quality parameters listed in the Appendix. No significant difference in water quality parameters would be expected between the All American Canal and smaller trunk and delivery lines, such as the East and West Highline Canals and the irrigation laterals. During the process of irrigation, however, this water accumulates additional salts, nutrients, etc., associated with agricultural processes (e.g., the application of fertilizers and pesticides). The result is a reduction in water quality for agricultural runoff. This runoff flows through the IID drainage canals into the New and Alamo Rivers and eventually enters the Salton Sea. Water quality parameters for these three (3) drainage receptors are given in the Appendix.

Surface waters in the vicinity of the project area also include intermittent storm runoff. This type of flow normally occurs at relatively high velocities resulting in high TDS levels and poor water quality. Storm runoff within the project area is generally infrequent and of relatively limited volume. When such runoff does occur, it is assimilated into irrigation waters moving through the IID system of drainage canals. Storm runoff is not likely to significantly affect water quality within drainage canals, local stream courses, or the Salton Sea.

Groundwater quality in the Imperial Valley region is generally poor, although isolated aquifers of good quality groundwater do occur. Known TDS levels in the Imperial hydrographic subunit vary from approximately 800 to 15,000 mg/l. High TDS levels plus locally high fluoride concentrations have generally limited the domestic or agricultural application of groundwater in the Imperial hydrographic subunit. They also render groundwater resources in the area generally unsuitable for domestic consumption under Federal and State drinking water standards (see Appendix). Poor groundwater quality is attributable to the infiltration of agricultural runoff (which contains high levels of salts, nutrients and organic contaminants) and the presence of subsurface salt deposits associated with periods of flooding, evaporation and subsequent deposition.

## 2. Project Area Water Quality

Water for domestic purposes would be supplied by the City of Imperial. The water is treated by the City's water treatment plant before being distributed to consumers. The water supplied for domestic purposes by the City meets State Health Department requirements for drinking water. Water would be supplied to the General Plan project area by the City's distribution system. Service by the City of unincorporated areas, such as Ironwood Acres subdivision, would reduce pipe service provided by the Imperial Irrigation District.

## 3. Water Quality Impacts and Mitigation Measures

The development of the project area with new residential, commercial and industrial uses is not anticipated to cause significant impacts to water quality. The conversion of agricultural sites to urban uses will result in the development of some impervious surfaces such as roadways, parking lots and building pads. This will result in a decrease in the time of concentration at the stormwater point of discharge when comparing agricultural land use to urban land use. The development of urban uses such as homes and businesses will have minimal water quality impacts due to the following:

- The City of Imperial has a Sanitary Sewer System and new uses within

the City would connect to the Sanitary Sewer System. Therefore, there should not be water pollution to the groundwater resources because no septic tanks will be used.

- The development of urban uses will not result in fertilizer or pesticide residue being discharged to the drainage systems as is currently the case with the agricultural uses. The development of urban uses will result in lower salt concentrations being deposited into drainage systems than is currently the case with the agricultural runoff.
- The development of new industrial uses will require a review of the proposed use by the City, State Regional Water Quality Control Board, County Environmental Health Department and the EPA to determine if additional mitigation measures will be needed. These mitigation measures cannot be identified at this time because the exact type of use is unknown. However, permits will need to be obtained from responsible agencies such as EPA and the State Regional Water Quality Control Board. As a mitigation measure, the City will require that appropriate and necessary permits be obtained from all responsible agencies before any new industrial use is established. A conditional use permit will also be required before an industrial use can be established in the City and appropriate mitigation measures will be included in the permit to minimize adverse environmental impacts.

## H. Soils

### 1. Project Area Soils

Most of the soil in the project area is either Imperial Silty Clay (Wet) or Imperial-Glenbar Silty Clay Loams (Wet). Both of these soils have a high clay content and high shrink-swell potential. Foundations for buildings, patio slabs and other structures must be reinforced to prevent damage from the shrinking and swelling of the soils.

### 2. Impacts to the Soils

The development of a portion of the planning area with urban uses will have a beneficial impact in that soil erosion from wind and water should be reduced. The development of homes, businesses, streets and landscaping will cover existing topsoil on the development sites and prevent the topsoil from blowing away during periods of high winds. This will also have a beneficial impact on air quality because blowing dust will be reduced on those sites developed with urban uses. There should be no significant detrimental impacts to soils because of development in the project area. As a mitigation measure, when development projects are submitted to the City for approval, the City will require a grading and drainage plan to be submitted. Grading and drainage plans will be prepared by a Registered Civil Engineer and the City will require that

appropriate mitigation measures be included to prevent soil erosion on and off the development project sites.

I. Cultural and Historical Resources

1. Within the Project Area

The project area soils have been disturbed by the deep plowing for agricultural cultivation and by the construction of homes, roadways, irrigation canals and other structures. Therefore, any previously existing significant archaeological resources have been disturbed by the past agricultural cultivation. An Archaeological Literature Review, Site Records Search, Historic Research and Field Survey of the project area was conducted by a qualified and experienced archeologist. The only specifically identified historical site is the old Imperial Cemetery which is located north of Ralph Road and east of the railroad tracks in the northeastern section of the Planning Area. This cemetery was established around the turn of the century and the site (approximately 7 acres) is currently owned and managed by the Central Valley Cemetery District. The ancient Lake Mesquite shoreline is located in the extreme northeast section of the Planning Area near the intersection of Harris Road and Dogwood Road. This area could have fossils and other artifacts that have yet to be discovered.

## 2. Impacts to Historical or Cultural Resources

The Imperial Cemetery is a public cemetery owned and managed by a public cemetery district (Central Valley Cemetery District). The cemetery site is currently surrounded by agricultural land. The revised General Plan does not project any land use changes in the future in the vicinity of the cemetery. Therefore, no impacts to the cemetery are anticipated. The area which includes the Mesquite Lake shoreline is also projected to remain agricultural; therefore, no impacts are anticipated from new development in this area. However, as a general mitigation measure, the City will request that developers and/or contractors contact the City in the event archaeological or cultural resources are discovered during excavation and grading operations. The City will then contact a qualified archeologist to evaluate the discovery before construction work continues.

## J. School Facilities

### 1. Existing School Facilities

The Imperial Unified School District operates the following schools in the project area: Imperial High School; Frank Wright Intermediate School; Ben Hulse Elementary School; and a continuation high school. During the 1991-1992 School Year, the peak enrollment in the District was 1695 students. The

maximum approved capacity was 1,928 students (both primary and secondary).

## 2. Impacts to School Facilities

The development of new urban uses within the revised General Plan area will result in more children attending the Elementary, Intermediate and High Schools within the Imperial Unified School District. The impact to schools from new development in the project area can be evaluated based upon the population projection for the City of Imperial in the year 2015. The year 2015 is the target year for full implementation of the revised General Plan. The total population in the City in the year 2015 is projected to be approximately 19,500. The current population of the City in July 1992 is estimated to be 5,000. Therefore, the City's population is projected to increase by 14,500 between July 1992 and the year 2015. This represents an increase in population of almost 300% in 23 years. Assuming the current ratio of school children to total population continued through the year 2015, there would be approximately 6,610 total students in the Imperial Unified School District in the year 2015. This would be a net increase of approximately 4,915 students over the reported 1991-1992 peak enrollment figures of 1,695 students. This increase in students would be a significant impact to the Imperial Unified School District and would require the construction of several new schools and a major expansion to the existing high school.

### 3. Mitigation Measures for School Facilities

The projected student population in the year 2015 (6,610) will require the Imperial Unified School District to construct four (4) new elementary (K-8) schools within approximately the next 22 years, one (1) new intermediate school, and approximately triple the capacity of the existing high school. The construction of the five new schools should mitigate the impacts to the school district from full implementation of the revised General Plan. It is not anticipated that a new High School will be needed, although the existing high school will need to be expanded. The Imperial Unified School District currently assesses residential developers at the rate of \$6,500 per house for new construction in the City. The purpose of this assessment is to build up a reserve fund for future new school facilities. As a further mitigation measure, the City of Imperial will require developers of major projects to dedicate land for new elementary schools pursuant to Section 66478 of the State Subdivision Map Act.

### K. Utilities

#### 1. Electricity

The City of Imperial is provided with electricity from the Imperial Irrigation District (IID). The Imperial Irrigation District is a public utility that provides water and power service. The Imperial Irrigation District produces electric power

through hydroelectric means using the drops on the All-American Canal and also produces power with gas turbine plants and diesel plants. The IID also purchases power from out of state utilities. The IID maintains sub-stations and distribution lines throughout its service area for electrical distribution to customers.

## 2. Natural Gas

The City of Imperial receives natural gas from the Southern California Gas Company. The Gas Company has several gas mains in the project area. These mains are typically high pressure (650-720 PSI) and are 8 to 12 inches in diameter.

## 3. Telephone

The City of Imperial is provided with telephone service by Pacific Bell Telephone Company. Pacific Bell provides telephone service for all of Imperial County and also serves other areas of the State.

## 4. Wastewater Treatment

The City of Imperial operates a wastewater treatment plant which is located in the northeast section of the City. The major treatment units are located

immediately north of 14th Street and immediately east of the Southern Pacific Railroad Right-of-Way on a site approximately 300 +/- feet x 680 +/- feet (4.68 acres). In addition, the City also owns an additional 493 +/- feet x 1,325.1 +/- feet (15 acres) site immediately northeast of the first parcel, which is composed primarily of abandoned treatment ponds. One of the ponds is presently used for sludge storage.

Residential areas are located immediately west of the adjacent Southern Pacific Railroad Right-of-Way. Agricultural lands bound the plant site on the north and east, while vacant commercial property exists on the south. The existing wastewater treatment plant was studied in 1990 during the completion of a Master Sewer Plan. The following data is excerpted from that plan and analyzes the expansion potential of the existing plant. The Master Sewer Plan assumed a population of 14,852 in the year 2010.

Using a per capita flow of 110 gallons per day, the flow in 2010 is expected to be approximately 1.6 MGD. The projected wastewater flow through the year 2010 is shown in Figure 3.

The design capacity of the existing facility is 0.7 MGD. Each process was evaluated individually. Table 14 summarizes the capacity of existing process units. Using realistic but less conservative criteria, it has been determined that the existing treatment plant could reliably treat 0.8 MGD. However, to do this,

all of the process units must be operational. This is especially true of the variable speed flow controllers on the two pump stations. The use of constant speed pumps creates unnecessary hydraulic peaks, which will result in loss of process efficiency and capacity.

The one existing process unit which cannot achieve 0.8 MGD is the sludge drying beds. It is estimated that the sludge drying bed capacity is only 0.2 MGD. The City has long recognized the deficiency in the number of sludge drying beds.

The City has been using one of its ponds instead of the digester and sludge drying beds to treat and store sludge. With additional sludge drying beds, the existing facilities could treat 0.8 MGD, which is one half of the projected capacity required in the year 2010.

For smaller communities, two wastewater treatment systems are typically given consideration. They are the extended aeration and the oxidation pond systems. The City of Imperial has used both processes in the past. In rural areas where low cost land is readily available, ponds are an attractive alternative. However, ponds can cause some odor problems. Because of the close proximity of the existing sewage treatment plant site to residential areas, it is not recommended that ponds be used on the existing site.

There is enough area at the existing site to double the treatment facility by expanding the extended aeration process. Thus, the existing facility can be easily expanded to 1.6 MGD. The existing oxidation ditch process with aerobic sludge digestion is a strictly aerobic treatment train which is dependable, stable, and one which should minimize odor production. The sludge drying beds can produce some odors. There is not enough room at the existing treatment plant for the sludge drying beds. Therefore, it is recommended that the sludge drying beds be located immediately north of the existing facility.

Two sets of recommended improvements and the associated projected costs are presented in Tables 15 and 16. Table 15 includes improvements that should be made in the near future to remedy existing deficiencies. Table 30 delineates the improvements that will be required to expand the capacity of the facility to 1.6 MGD. In conclusion, a substantial increase in population could be accommodated with the planned improvements to the wastewater treatment plant.

## 5. Water

The City of Imperial operates its own water treatment plant and distribution system. The City receives raw water from the Imperial Irrigation District. The treated water meets the requirements of the State Health Department for drinking water. The existing water treatment plant has a treatment capacity of

3.5 million gallons per day. The average peak water usage at present is approximately 2.0 million gallons per day in the summer months and approximately 1.2 million gallons per day in the winter months. Based upon a current (July 1992) population of 5,000, the per capita water usage in the City is presently approximately 400 gallons per day in the summer months and 240 gallons per day in the winter months. Assuming a population of 19,500 in the year 2015, and using the current per capita water usage figures for summer and winter as outlined above, the total water usage in the year 2015 would be 7,800,000 gallons per day in the summer and 4,680,000 gallons per day in the winter. It is therefore apparent from the above analysis that the water treatment capacity will have to be expanded substantially in the future if the current per capita rate of water usage continues. Extensions to the existing water distribution system will be needed in the future to serve new urban uses. Water mains will be constructed by developers when development takes place.

#### L. Impacts to Utilities

##### 1. Electricity

The full implementation of the General Plan will result in the construction of several thousand new dwelling units. These new dwelling units will cause a significant demand for electricity.

For the purposes of this analysis, it is assumed that the average single family

home will use 2,000 kilowatt hours of electricity per month and that the average apartment unit will use 1,200 kilowatt hours per month. The approximate total electricity demand can be determined by multiplying the number of new dwelling units by the kilowatt hours used per unit as follows:

<u>Type of Dwelling Unit</u>	<u>Average KW/Hrs/Mo./Unit</u>	<u>Number of Units</u>	<u>Total Per Month</u>
Single Family Home/ Mobile Home	2,000	6,647	13,294,000 KW/Hrs
Apartment Unit/ Condo	1,200	2,600	<u>3,120,000</u> KW/Hrs
		TOTAL	<u>16,414,000</u> KW/Hrs

The total electricity demand for residential uses is thus estimated to be 16,414,000 kilowatt hours per month. The electrical demand from new commercial and industrial uses cannot be assessed at this time due to the fact the exact types of commercial and industrial uses are presently unknown. The additional demand for electricity is significant and will require the IID to construct additional substations and electrical distribution lines between 1992 and the year 2015.

The construction of new facilities will mitigate the impacts caused by the project. The costs for construction of new generation, distribution and sub-station facilities will be absorbed by all IID customers and by developers of new projects.

## 2. Natural Gas

The full development of the General Plan Area will create a demand for additional natural gas resources. The development of the General Plan Area with new urban uses may create the following demand for natural gas. The estimated demand from new residential uses can be projected as follows:

<u>Type of Residential Use</u>	<u>Average Natural Gas Use per Unit</u>	<u>Total No. of Units</u>	<u>Total Gas Consumption</u>
Single Family Home/ Mobile Home	360 Therms/Year	6,647	2,392,920 Therms/Year
Apartment Unit/ Condo	270 Therms/Year	2,600	702,000 Therms/Year
		TOTAL	<u>3,094,920 Therms/Year</u>

The total natural gas consumption estimated to be used by new residential units is therefore 3,094,920 Therms/Year. This level of demand is considered significant, however, the existing natural gas mains in the area should serve the projected new residential development. Since the exact type of new commercial and industrial use is unknown at this time, the projected natural gas usage by these types of projects cannot be calculated at the present time. However, it is not anticipated that these uses will cause a significant impact to the natural gas facilities of Southern California Gas company.

## 3. Telephone Facilities

The impact to telephone facilities from the planned new residential growth can

be projected based on the number of lines per dwelling unit as follows:

<u>Type of Residential Use</u>	<u>No. of Lines/Unit</u>	<u>Total No. Of Units</u>	<u>Total New Lines</u>
Single Family Home/ Mobile Home	2.0	6,647	13,294
Apartment Unit/ Condo	1.5	2,600	<u>3,900</u>
		TOTAL	<u>17,194 New Lines</u>

The total number of new residential lines is therefore projected to be 17,194. The number of new lines attributed to new commercial and industrial development cannot be determined at this time because the exact nature of the new commercial and industrial development is presently unknown. The full development of the General Plan Area is anticipated to have a significant impact on the telephone company facilities in the Imperial Area. Specifically, the projected new development will require that additional cables be run and that the switching capability be increased. Being a publicly regulated utility, the telephone company is obligated to serve the community and improve facilities as needed to serve increased demand for telephone services. The addition of more cables and the upgrade of switching capability should mitigate the impacts caused by new development within the General Plan Area.

#### 4. Wastewater Treatment

As previously outlined, the City of Imperial operates its own wastewater treatment plant. The new development projected within the General Plan area will have a significant impact on the City's existing wastewater treatment facility and will require the City to substantially expand the treatment capacity of the plant in the future. As previously outlined, there is enough area at the existing plant site to double the treatment facility by expanding the extended aeration process. Additional land will need to be acquired in the future to expand the sludge drying beds. These improvements should mitigate the impacts caused by new development within the project area.

#### 5. Water Treatment

As previously stated, the City of Imperial operates its own water treatment plant. The development of new urban uses within the General Plan area will have a significant impact on the City's existing water treatment plant. As previously outlined, the City will have to more than double the existing treatment capacity to serve a population of 19,500 in the year 2015. The City is currently making improvements to its water system with the upcoming construction of a new 2 million gallon treated water storage tank. This project is being partially funded with a grant from the Federal Economic Development Administration. Since the current peak water usage is well below the treatment capacity of the existing

plant, the City will probably not have to make any additional improvements to expand treatment capacity until approximately the year 2000. However, the City will upgrade its filtering system in the near future to meet more stringent state drinking water standards.

#### M. Impacts to Police Services

The full development of the revised General Plan area will require that additional facilities and personnel be provided in order to allow for adequate police protection. Assuming a ratio of one (1) sworn police officer for each 700 residents and a net gain in population of 14,500 persons between 1992 and 2015, the additional police officers needed would be 21. In addition to sworn officers, additional support personnel will also be needed. It is anticipated that six (6) additional support personnel will be needed. The support personnel would include such positions as secretaries and dispatchers. The required addition of 21 police officers and 6 support personnel to the City's Police Department is a significant impact. However, these personnel can be added incrementally over a 23 year period. The year for full implementation of the revised General Plan is 2015. In addition to personnel, it is very likely the existing police department facilities will need to be expanded. Assuming a need for 185 square feet of building space per employee, the future police station would need to contain a total of 7,215 square feet. The present (1992) police personnel include 10 sworn officers and 2 support personnel. The total personnel level in 2015 would be 39, which would include 31 sworn officers

and 8 support personnel.

N. Impacts to Fire Protection Services

The City of Imperial currently contracts with the County for fire protection services. The County maintains a main fire station in Imperial at the Imperial County Airport. The County currently has approximately 17 personnel assigned to the Imperial County Airport Fire Station. The City may or may not continue in the future to contract with the County for fire protection. In any event, the development of new urban uses in the General Plan project area will cause a need for additional firefighters, facilities and equipment. Specifically, a total of approximately 30 fire department personnel will be needed. This figure includes a total of 25 firefighters and 5 support personnel. In addition to the increase in personnel, it will also be necessary to construct a new firestation in the eastern portion of the planning area, east of Highway 86 and the railroad tracks . This new station will be required in order to serve the projected new development in the eastern section of the City. The full implementation of the General Plan will therefore have a significant impact on fire protection services. The additional personnel and the new firestation should mitigate the impact. The additional personnel can be added over a period of several years. It is anticipated that the new eastside firestation will need to be constructed in approximately the year 2000.

O. Impacts to Solid Waste Facilities

The City of Imperial contracts with Imperial County Sanitation Company for solid waste collection. Residents are provided with once a week collection service. Solid waste from the City of Imperial is disposed of at the Imperial County Sanitation Company landfill site near the City of Imperial, east of Dogwood Road. The development of new urban uses within the General Plan area between 1992 and 2015 will generate a significant amount of solid waste. For residential dwelling uses, it is estimated that each dwelling will generate 4.0 tons of solid waste per year. The total number of new residential dwellings is projected to be 9,247 by the year 2015. Assuming that each dwelling generates an average of 4.0 tons of solid waste per year, a total of 36,988 tons per year would be deposited in the Imperial County Sanitation Company landfill in 2015 when full implementation of the General Plan occurs. However, since the full implementation of the General Plan is not projected to occur until the year 2015, the level of solid waste going to the landfill will increase gradually over a long period of time. The Imperial County Sanitation Company landfill currently has a remaining usefull capacity estimated to be 18 years. The projected new growth in the City of Imperial will further accelerate the depletion of the remaining capacity at the landfill. The projected 36,988 tons of solid waste which will be generated in the year 2015 is a significant impact. However, mitigation measures, when implemented, can considerably reduce the level of solid waste generation.

The quantity and types of solid waste generated by new industrial and commercial uses cannot be determined and calculated at this time because the type and size of use is presently unknown. Any major new commercial or industrial use will require the completion of a subsequent EIR which will address the solid waste impacts associated with the specific operations of the industrial or commercial development project. The anticipated types and quantities of solid wastes which will be generated during the construction phase of new projects within the General Plan area cannot be determined at this time. A subsequent EIR will be required for construction of specific industrial development projects which could have significant environmental impacts.

The cumulative impacts from all potential new uses (i.e. residential, commercial, and industrial) cannot be determined at this time because the specific types of commercial and industrial uses are presently unknown. A subsequent EIR will be required to address cumulative impacts when specific development projects are proposed in the City.

The City of Imperial does not operate its own landfill facility. The Imperial County Sanitation Company landfill is a private landfill. Landfill monitoring documents are developed and implemented by the owners and operators of the respective landfills, in order to ensure compliance with applicable environmental health and safety laws. The City of Imperial has no jurisdiction or responsibility for the operation of any landfill facility.

### Mitigation Measures for Solid Waste Disposal

The volume of solid waste being transported to the Imperial County Sanitation Company landfill can be reduced by implementing the below listed mitigation measures.

1. Implement a curbside recycling program in the City of Imperial.
2. Use recycled building materials in the construction of structures. As an example, usable lumber from demolished structures should not be sent to the landfill.
3. Include storage areas for recyclables in the design of residential, commercial, and industrial structures.
4. Undertake a public information campaign to inform the residents of Imperial about the recycling programs and services in the area. Identify buy back centers and possible markets for recyclables in the area.
5. Recommend to residents and businesses to recycle glass, metal, paper, cardboard, and other materials to the maximum extent feasible.

6. Recommend to residents and businesses to utilize products made from recycled materials to the maximum extent possible.
7. Recommend to residents and businesses to implement source reduction programs, such as double sided copying, to reduce the amount of solid waste produced.

P. Public Health and Safety

1. Health and Safety Concerns

The development of the General Plan area with new urban uses is not expected to result in any significant health hazards. The conversion of some agricultural land to residential and commercial uses should have a beneficial impact on health in that the particulate matter in the air will be somewhat reduced in the project area. Particulates in the form of dust and smoke generated by farming operations especially effect persons with respiratory problems.

It is not anticipated that any heavy industrial uses will be developed in the General Plan area, although some acreage will be designated for heavy industry. New industrial uses will most likely be light industrial type uses such as food processing plants and manufacturing assembly plants. These type of uses should not be detrimental to public health and safety. The City's

Zoning Ordinance contains performance standards for industrial uses that prevent uses which cause smoke, excessive noise, vibration, dust, wastes or other pollution which could be hazardous to human health. These standards should mitigate the health and safety concerns related to the development of industrial uses. In addition, any industrial use which emits air pollutants or discharges industrial waste must obtain appropriate permits from the County Air Pollution Control District, County Environmental Health and Planning Departments, Environmental Protection Agency and from the State Regional Water Quality Control Board. These agencies also establish mitigation measures to ensure protection of the public health and safety. These agencies will be consulted before building permits are issued for industrial uses.

The major public safety concern in the project area relates to earthquakes. The Imperial Fault lies just to the east of the project area and the Superstition Hill Fault is within the project area. The San Andreas Fault lies several miles to the east of the project area. The project area is seismically active. Prior to the approval of subdivisions, a Soils Report and Geotechnical investigation will be required to be submitted by the subdivider. Appropriate mitigation measures will be required in the report to protect the public from earthquake hazards such as liquefaction and ground rupture. Construction of residences directly above the fault zone will be prohibited and should help mitigate public safety concerns in regard to potential earthquakes.

In addition to earthquake hazards, flooding during severe storms can be a public health and safety concern. The flood hazard maps prepared by the Federal Emergency Management Agency were reviewed as they pertain to the Revised General Plan project area. No Flood Hazard Areas are identified on the FEMA Map within the revised general plan area. The nearest floodplain was located along the New River approximately one (1) mile west of the extreme northwest corner of the General Plan area. Therefore, no residential structures will be constructed within the designated flood hazard areas. Localized flooding within residential subdivisions can occur during 100 Year storms. This flooding is usually confined to the streets, however, in very severe storms the stormwaters can flow over the top of the curbs and into the yard areas. In order to protect the residences from interior flooding in such storms, the finished floor elevations will be at least 16 inches above the top of adjacent curbs. Vertical curb designs will be required in all subdivisions to provide for greater control of stormwater flow. Residential subdivision designs will, in many instances, incorporate retention basins for stormwater control and to prevent flooding of individual lots and streets. Grading and drainage plans will be required for all developments to ensure proper drainage and to ensure protection of public health and safety. Open canals and drains will be fenced and/or undergrounded to ensure public safety.

2. Mitigation Measures for Public Health and Safety

The following mitigation measures will be implemented by the City to ensure protection of the public health and safety within the General Plan area:

- a. Enforce the performance standards contained in the Zoning Ordinance when new industrial uses are established.
- b. Ensure the finished floor elevations for residences are a minimum of 16 inches above the top of the adjacent curb for flood protection.
- c. Ensure the requirements of the State Subdivision Map Act are complied with regarding the completion of a Soils Report and Geotechnical Analysis for every subdivision.
- d. Prohibit the construction of residential and commercial structures on or in close proximity to the Superstition Hill Fault.
- e. Require grading and drainage plans prepared by a Registered Civil Engineer be submitted for every subdivision to ensure proper drainage and control of stormwater.

- f. Prohibit the construction of residences within any identified Flood Hazard area.
- g. Ensure that all industrial uses obtain the required permits from the County Health and Planning Departments, Federal Environmental Protection Agency, State Regional Water Quality Control Board, County Air Pollution Control Officer and other appropriate agencies.
- h. Require developers to fence and/or underground canals and drains located adjacent to residential subdivisions for safety purposes. The Imperial Irrigation District prefers undergrounding of canals, however, cost of construction beyond benefits to the Imperial Irrigation District would need to be paid by others.

Q. Visual Resources and Mitigation

1. Views from within the City

Since the City of Imperial is located near the south end of a large flat valley, there are no mountains in close proximity to the City. The views one observes from the City include distant views of the Laguna and Fish Creek Mountains to the west, the Chocolate Mountains and Imperial Sand Hills to the east and southeast, Mount Signal to the southwest, and the Santa Rosa, San Jacinto,

Orocopia and San Bernardino Mountain ranges to the distant north and northwest. During the winter months, the higher mountain ranges are snow capped which provides an even greater contrast between the low desert valley areas and the adjacent mountains. The Salton Sea, a very large inland body of water, is located approximately 20 air miles northwest of the City. However, this resource cannot be observed from most vantage points in the City. In order to view this resource, a person would need to be located in a high rise building and there are no such buildings currently located in the City. It is not anticipated that the development of the General Plan area with new urban uses will have any detrimental impacts to visual resources. There are no high rise buildings or other structures currently being proposed. The Zoning Ordinance currently allows buildings or structures up to 35 feet high in the commercial and industrial zones. The majority of the residential structures will most likely be single story structures although the Zoning Ordinance does allow two story residences. The development of low rise buildings will not restrict the views of the distant mountain ranges.

#### Mitigation Measures To Protect Visual Resources

- a. Require developers of projects to submit landscaping plans and to provide appropriate landscaping for all new projects, thereby improving the visual aesthetics in the General Plan area.

- b. Enforce the height limits as contained in the zoning ordinance.
  
- c. Require appropriate screening of Commercial and Industrial projects in order to improve visual aesthetics of these projects. Screening should consist of solid masonry walls, dense landscaping, or a combination thereof.

**V. ALTERNATIVES TO THE PROPOSED PROJECT**

A. No Project

The no project alternative would essentially mean that the General Plan would not be implemented and that the City would grow only through the increased utilization of existing sites within the current City Limits. The 2,640 acres of agricultural land proposed to be converted to urban uses would remain as agricultural land under this alternative. The growth potential and population of the City would be limited under this alternative because the land potentially available for development would be restricted. The economic development of the City would be hampered by this alternative and a reduction in potential new jobs could occur in the future. This alternative would lessen the impact on such sensitive species as the Burrowing Owl because the potential disruption of habitat would not occur. This alternative would result in a lower level of energy and water usage within the City. Under this alternative, less traffic

would be generated with a resulting lower impact on air quality. The impact on the schools would not be as great under this alternative because of lower population levels.

B. Modified General Plan

The General Plan Land Use Element could be modified to reduce the amount of agricultural land which would be converted to urban uses. Instead of the 2,640 acres of agricultural land being converted, the amount of acreage could be reduced to 500-1,000 acres for example. This alternative would provide for a reduced amount of new development within the City but would still allow for some growth in new housing and population. The impacts to natural resources such as agricultural land would be reduced and the potential impacts to sensitive wildlife species would be reduced since there would be less disruption of wildlife habitat. In addition, the noise and dust associated with new construction activity would potentially be reduced because the potential level of new development would not be as great. Under this alternative, the amount of energy and water usage would decrease. The impact to the school system would be less because of lower population levels.

## VI. UNAVOIDABLE AND IRREVERSIBLE ENVIRONMENTAL CHANGES

The implementation of the revised General Plan project will result in the elimination of approximately 2,640 acres of agricultural land. This is the amount of agricultural acreage that is designated to be converted to urban uses by the year 2015. The loss of this agricultural land is unavoidable if the City is to grow. The City of Imperial is surrounded by agricultural land in all directions and the amount of vacant developable land located within the current City Limits is very limited.

The development of new urban uses will remove some potential habitat for sensitive species such as the Burrowing Owl. This impact will be caused by the undergrounding of canals and drains. In addition, the loss of the agricultural land will remove some potential loafing habitat for the Greater Sandhill Crane. The undergrounding of canals and drains will remove some wetland habitat thereby affecting various species of fish, reptiles and amphibians.

The development of new urban uses will mean more houses and commercial development. This will in turn create an increase in traffic congestion within the City. The increase in traffic will cause more noise pollution within the City and some increase in air pollution due to vehicle exhaust emissions.

VII. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The major impact affecting the long-term state of the environment in the General Plan area is the potential conversion of 2,640 acres of agricultural land to urban uses. Once this agricultural land is developed with homes and businesses, it is essentially lost for agricultural production permanently. The loss of this farmland is cumulatively significant when the entire Imperial Valley area is considered. The conversion of farmland to urban uses satisfies the short-term need for additional housing and commercial development land; however, the long-term agricultural productivity of the region is adversely affected. When all the development projects in the Imperial Valley area are considered, several thousand acres of farmland could be taken out of production in the next 10-15 years.

The City Council has determined that a revised General Plan should be completed at this time which designates suitable areas adjacent to the existing City Limits for new housing and commercial development. The City is anticipating a significant economic impact and growth due to the construction of the new State Prison which is located approximately 2.5 miles northeast of the current City Limits. The revised General Plan will ensure that this anticipated growth occurs in an orderly manner.

## VIII. GROWTH INDUCING IMPACTS

The revised General Plan will encourage growth within and adjacent to the City. The revised General Plan designates specific areas for new residential, commercial and industrial development. The designation of the specific areas for the development of urban uses will be indicated on the General Plan land use map. Other information contained in the revised General Plan, such as population and housing projection data, may encourage developers to seek development opportunities in the City since the City is projected to increase in population by several thousand residents over the next 25 years. The development of the new State Prison in the northeast corner of the General Plan area will stimulate significant growth within the City. The facility will house over 4,000 inmates and will ultimately employ over 1,300 people. The growth inducing impacts of the State Prison facility are discussed in the EIR that was prepared by the State Department of Corrections.

The revised General Plan will include policies which promote and encourage economic development and job creation within the City. Most of these policies will relate to the upgrading, extension and expansion of the City's infrastructure facilities such as streets, water and sewer lines, water treatment plant and wastewater treatment plant.

The revised General Plan Housing Element will contain quantified objectives for new housing construction for various income groups. The Housing Element will identify sites for housing development and will encourage and promote the construction of new affordable housing units for persons of low to moderate income.

The revised General Plan will contain a policy stating that the City will apply for all available federal grants for Economic Development activities and for upgrading of infrastructure. The securing of federal grants would provide funds for activities which will encourage growth and development within the City.

## **IX. SOCIAL AND ECONOMIC IMPACTS**

The implementation of the revised General Plan over the next 23 years will result in some significant social and economic impacts and will change the overall character of the City of Imperial.

One of the largest single economic impacts to the community will be from the construction and operation of the new Dixie Ranch State Prison. The prison is located approximately 11 miles west of the existing City Limits. The Cities of Imperial and El Centro are the closest major communities to the new prison site. The Dixie Ranch State Prison is projected to employ 1,207 people when operating at 190% capacity. It is the objective of the State to hire at least 40% of these

employees locally from within Imperial County. According to the report prepared by the Department of Corrections, the prison employees will have a weighted average salary of \$34,100 per year for all employees and the annual prison payroll will range from \$29.22 million to \$41.16 million per year. In addition, according to this report, the Dixie Ranch State Prison will spend approximately \$735 per prison inmate per year on regional goods and services required for prison operation and maintenance. Total expenditures in Imperial County will therefore range from \$1.62 million to \$3.07 million annually. Imperial businesses should benefit economically from the new State Prison if they can provide the needed goods and services on a competitive basis to the State.

The prison employees earn significantly more than the average annual income for Imperial County residents. The prison employees will therefore be able to afford single family homes and upscale apartments. This factor will stimulate the construction of new moderate income housing.

The growth of the City to a total population of 19,500 in the year 2015 should have positive social implications. There should be more professional level jobs in the community and the economic base of the City should further diversify. The increase in population should result in a much greater demand for goods and services, which will stimulate the construction of new businesses. The City's tax base should be substantially expanded in the future, which will result in more funds being available for basic city services. As the City's population grows, services

such as parks and recreation should become more important and the quality of life in the City should be positively impacted by the future changes.

## **X. APPENDIX**

## A. TABLES

TABLE 1

PARTIAL LISTING OF PLANTS AND WILDLIFE

The following plants and wildlife are typical of species which could be found within the project area. This listing is not all inclusive and does not include some migratory species which may be in the project area for short periods of time during certain months of the year.

A. Wildlife

1. Birds and Waterfowl

Mourning Dove  
Rock Dove  
Red-winged Blackbird  
Cattle Egrets  
Burrowing Owl (Sensitive)  
Turkey Vulture (Sensitive)  
Great Blue Heron (Declining)  
Black Necked Stilt  
Whimbrel  
Snowy Egrets  
Valley Quail  
Raven  
White Faced Ibis (California Species of Special Concern)  
Long-billed Curlew  
Northern Harrier (California Species of Special Concern)  
American Kestrel  
Ring-billed Gull  
Great Egret  
Barn Swallow  
Killdeer  
Western Kingbird  
House Sparrow  
Great-tailed Grackle

2. Amphibians and Fish

Bullfrog  
Leopard Frog  
Catfish  
Bass  
Sunfish  
Carp

TABLE 1

3. Reptiles
  - Side Blotched Lizard
  - Western Whiptail
  - Gopher Snake
  - Common Kingsnake
  - Western Diamondback Rattlesnake
  - Checkered Garter Snake
  
4. Rodent
  - Deer Mouse
  - Desert Mouse
  - Long-Tailed Mouse
  - Spiny Pocket Mouse
  - House Mouse
  - Botta Pocket Gopher
  - Round-tailed Ground Squirrel
  
5. Carnivores
  - Coyote
  - Gray Fox
  - Badger
  - Striped Skunk
  - Spotted Skunk
  
6. Other Species
  - Black-tailed Jack Rabbit
  - Desert Cottontail

TABLE 1

B. Plants and Grasses

Creosote Bush  
Tamarisk  
Arrowweed  
Wild Rye  
Russian Thistle  
Saltbush  
Rabbitfoot  
Beardgrass  
Goosefoot  
Bermuda Grass  
Common Horseweed  
Slender Wild Oat

C. Typical Agricultural Crops

Sugar Beets  
Alfalfa Hay

TABLE 2

## YIELDS PER ACRE OF IRRIGATED CROPS

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Alfalfa hay	Barley	Cantaloupe	Carrots	Cotton lint	Lettuce	Sugar beets
	Ton	Bu	Ton	Ton	Lb	Ton	Ton
105*----- Glenbar	8.0	83	8	---	1,300	---	24
106----- Glenbar	7.0	80	8	16	1,750	---	27
109, 110----- Holtville	7	80	7	15	1,200	8	25
114----- Imperial	5	75	5	10	1,000	6	23
115----- Imperial	6.5	78	5	13	1,375	---	26
117----- Indio	9	100	8	20	1,250	---	28
118----- Indio	8	100	8	20	1,250	---	28
122----- Meloland	7.5	80	7	18	---	9	24
123----- Meloland	7	80	8	17	---	9	25
125----- Niland	---	80	---	---	1,000	---	---
128----- Niland	---	79	---	---	1,000	---	---
135----- Rositas	7	60	5	12	1,000	---	---
142----- Vint	6.5	95	7	18	1,750	---	25
144----- Vint	7	97	7	19	1,530	---	26

\* Yields are for areas protected from flooding.

Table 3

**SUMMARY OF SURFACE RUNOFF POLLUTION COEFFICIENTS FOR VARIOUS LAND USES  
(lbs/acre/year)**

Land Use	Total Solids	Suspended Solids	Dissolved Solids	Nitrogen (N)	Phosphorus (P)	Biochemical Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)
Open Space, Barren	1050	500	550	2.0	0.3	6.0	40
Grains, Hay	650	400	250	10	0.8	20	150
Citrus, Walnut Vegetables	650	400	250	30	1.5	30	200
Residential Trailer Parks	900	500	400	12	2.0	30	230
Commercial, Parking	1450	950	500	12	1.0	40	300
Industrial	1250	700	550	12	1.2	30	240
Picnic, Golf Courses							
Green Lawns	650	400	250	15	0.5	18	100

Source: RWQCB 1975

TABLE 4

CIRCULATION ELEMENT STREET CLASSIFICATIONS  
FUTURE IMPROVEMENTS

<u>Link</u>	<u>Arterial</u>	<u>Segment</u>	<u>Master Planned Classification</u>
1.	State Highway 86	N City limits to S City limits	Freeway
2.	Worthington Road	W City limits to "B" Street	Major Arterial
3.	Worthington Road	"P" Street to E City limits	Major Arterial
4.	Barioni Blvd. (Main Street)	"B" Street to "P" Street	Major Arterial
5.	Aten Road	W City limits to E City limits	Major Arterial
6.	2nd Street	Airport to Clark Road	Secondary Arterial
7.	Austin Road	N City limits to S City limits	Secondary Arterial
8.	Neckel Road	W City limits to E City limits	Secondary Arterial
9.	Imperial Avenue	Highway 86 N to Highway 86 S	Secondary Arterial
10.	Clark Road	1st Street to S City limits	Secondary Arterial
11.	"P" Street	Worthington Road to 1st Street	Secondary Arterial
12.	Murphy Road	W City limits to "B" Street	Secondary Arterial
13.	15th Street	Highway 86 to "M" Street	Secondary Arterial
14.	"M" Street	15th Street to 1st Street	Industrial Collector
15.	"N" Street	14th Street to 1st Street	Industrial Collector
16.	4th Street	"N" Street to "P" Street	Industrial Collector
17.	14th Street	"M" Street to "P" Street	Industrial Collector
18.	4th Street	"B" Street to "M" Street	Residential Collector
19.	10th Street	Frank Wright School to "K" St.	Residential Collector
20.	12th Street	"B" Street to "K" Street	Residential Collector
21.	20th Street	"B" Street to Imperial Avenue	Residential Collector
22.	"B" Street	4th Street to 20th Street	Residential Collector
23.	Belford Road	W City limits to "B" Street	Residential Collector
PROPOSED (FUTURE)			
24.	15th Street	"B" Street to Imperial Avenue	Secondary Arterial
25.	15th Street	"M" Street to "P" Street	Secondary Arterial
26.	"P" Street	N City limits to Worthington Rd.	Secondary Arterial
27.	"M" Street	1st Street to Aten Road	Industrial Collector
28.	"B" Street	N City limits to 20th Street	Residential Collector
29.	Bonta Street	Austin Road to "B" Street	Residential Collector
30.	Ralph Road	Dogwood Road to Highway 86	Major Arterial
31.	Larsen Road	Highway 86 to Austin Road	Secondary Arterial
32.	Dogwood Road	Aten Road to Harris Road	Major Arterial
33.	Harris Road	Dogwood Road to Highway 86	Secondary Arterial
34.	Cross Road	Aten Road to south limits of Sphere of Influence	Secondary Arterial
35.	Treshill Road	Dogwood to Austin Road	Secondary Arterial

Table 5

### AMBIENT AIR QUALITY SUMMARY

Pollutant	Average Time	California Air Quality Standards	Federal Primary Standards	Maximum 1-hr Concentrations (ppm)			Number of Days Exceeding State Standard			
				1984	1985	1986	1987	1984	1985	1986
<b>EL CENTRO MONITORING STATION</b>										
Oxidants (Ozone)	1 hr	0.10 ppm	0.12 ppm	0.05	0.13	(0.09)	(0.09)	---	16	---
Total Suspended Particulates	24 hrs	---	260 µg/m <sup>3</sup>	333	382	143(598)	(380)	---	---	---
Particulate Matter (PM-10)	24 hrs	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> **	65	178	83(230)	(157)	4	31	12(25) (24)
<b>BRAWLEY MONITORING STATION</b>										
Total Suspended Particulates	24 hrs	---	260 µg/m <sup>3</sup>	244	325	235	294	---	---	---
Particulate Matter (PM-10)	24 hrs	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> **	---	191	191	148	---	14	20 31
<b>CALEXICO MONITORING STATION</b>										
Total Suspended Particulates	24 hrs	---	260 µg/m <sup>3</sup>	412	870	424	685	---	---	---

( ) - Data from the El Centro Station at 150 9th Avenue S.

\* Maximum 24-hour sample (in µg/m<sup>3</sup>)

\*\* Effective, July 1987; no prior federal standard for PM-10.

ppm - Parts per million

µg/m<sup>3</sup> - Micrograms per cubic meter

Source: California Air Resources Board Annual Air Quality Summary 1983, 1984, 1985, 1986

TABLE 6

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS (1)		NATIONAL STANDARDS (2)			
		Concentration	Method	Primary	Secondary	Method	
Ozone	1 Hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$ )	Ultraviolet Photometry	0.12 ppm (235 $\mu\text{g}/\text{m}^3$ )	Same as Primary Standards	Ethylene Chemiluminescence	
Carbon Monoxide	8 Hour	9.0 ppm (10 $\text{mg}/\text{m}^3$ )	Nondispersive Infrared Spectroscopy	9.0 ppm (10 $\text{mg}/\text{m}^3$ )	Same as Primary Standards	Nondispersive Infrared Spectroscopy	
	1 Hour	20 ppm (23 $\text{mg}/\text{m}^3$ )		35 ppm (40 $\text{mg}/\text{m}^3$ )			
Nitrogen Dioxide	Annual Average	-	Gas Phase Chemilum- inescence	0.053 ppm (100 $\mu\text{g}/\text{m}^3$ )	Same as Primary Standards	Gas Phase Chemiluminescence	
	1 Hour	0.25 ppm (470 $\mu\text{g}/\text{m}^3$ )		-			
Sulfur Dioxide	Annual Average	-	Ultraviolet Fluorescence	0.03 ppm (80 $\mu\text{g}/\text{m}^3$ )	-	Pararosaniline	
	24 Hour	0.05 ppm (131 $\mu\text{g}/\text{m}^3$ )		0.14 ppm (385 $\mu\text{g}/\text{m}^3$ )			
	3 Hour	-		-			0.5 ppm (1300 $\mu\text{g}/\text{m}^3$ )
	1 Hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$ )		-			-
Suspended Particulate Matter	Annual Geometric Mean	PM-10 30 $\mu\text{g}/\text{m}^3$	Size Selective High Volume Sampler and Gravimetric Analysis	PM-10 (3) 50 $\mu\text{g}/\text{m}^3$	Same as Primary Standards	Inertial Separation and Gravimetric Analysis	
	24 Hour	PM-10 50 $\mu\text{g}/\text{m}^3$		PM-10 150 $\mu\text{g}/\text{m}^3$			
Sulfates	24 Hour	25 $\mu\text{g}/\text{m}^3$	Turbidimetric Barium Sulfate	-	-	-	
Lead	30 Day Average	1.5 $\mu\text{g}/\text{m}^3$	Atomic Absorption	-	Same as Primary Standards	Atomic Absorption	
	Calendar Quarter	-		1.5 $\mu\text{g}/\text{m}^3$			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$ )	Cadmium Hydroxide Stractan	-	-	-	
Vinyl Chloride (chloroethane)	24 Hour	0.010 ppm (26 $\mu\text{g}/\text{m}^3$ )	Tedlar Bag Collection, Gas Chromatography	-	-	-	
Visibility Reducing Particles	1 Observation	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%		-	-	-	

ppm - parts per million

 $\mu\text{g}/\text{m}^3$  - micrograms per cubic meter $\text{mg}/\text{m}^3$  - milligrams per cubic meter(1) CO, SO<sub>2</sub> (1 Hour), NO<sub>2</sub>, O<sub>3</sub> and PM-10 Standards are not to be exceeded. All other Standards are not to be equaled or exceeded.

(2) Not to be exceeded more than once a year.

(3) Annual arithmetic mean

TABLE I . CALIFORNIA AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Table 7

**RAW WATER QUALITY -  
IMPERIAL IRRIGATION DISTRICT**

Constituents	El Centro 1982(a)	Calipatria 1/28/87(b)	Niland 1/28/87(c)	MCL (d)
pH	7.40	8.26	7.54	6.5-8.5
TDS (mg/L)	N/A	601.7	608.5	500 (e)
EC (umho, cm) specific conductance	1,200	980	980	900
Calcium (mg/L)	88	74.04 ppm	75.08	None
Magnesium (mg/L)	33	23.3 ppm	22.35	None
Sodium (mg/L)	132	97.7 ppm	96	None
Potassium (mg/L)	N/A	5.3 ppm	5.5	None
Chloride (mg/L)	124	86.0	83.4	250 (e)
Iron (mg/L)	0.06			0.3
Manganese (mg/L)	0.003	<0.02 ppm	<0.02	0.05
Hardness (mg/L)	356	286	282.4	
Alkalinity (mg/L)	N/A	132.4	129.9	
Carbonate (mg/L)	0	<1 ppm	<1	None
Bicarbonate (mg/L)	157	161.6 ppm	158.4	None
Color	1.0	N/A	N/A	15
Odor	1.0	N/A	N/A	3
Sulphate (mg/L)	328	236.1	236.1	250 (e)
Nitrate (mg/L)	0.60	2.10	1.7	45
Fluoride (mg/L)	0.23	0.50	0.55	1.4-2.4
Boron (mg/L)	0.06			
Iron (mg/L)			0.03	0.3
Turbidity (NTU)	0.7-4.0			0.2
Arsenic (mg/L)	0.005	<0.02	<0.02	0.5
Barium (mg/L)	0.26	<0.01	<0.01	1.0
Cadmium (mg/L)	0.0004	<0.005	<0.005	0.010
Chromium (mg/L)	0.01	<0.01	<0.01	0.05
Lead (mg/L)	0.005	<0.01	<0.01	0.05
Mercury (mg/L)	0.001	<0.001	<0.001	0.002
Selenium (mg/L)	0.002	<0.005	<0.005	0.01
Silver (mg/L)	Trace	<0.01	<0.01	0.05

(a) Tested for El Centro by GHT Laboratories, Inc., 1982.

(b) Tested for SCWC Calipatria treatment facilities by Clinical Laboratory of San Bernardino, Inc., 28 January 1987.

(c) Tested for SCWC Niland treatment facilities by Clinical Laboratory of San Bernardino, Inc., 28 January 1987.

(d) Maximum level allowable in accordance with the State's primary and secondary drinking water standards.

(e) Recommended maximum only. Upper contaminant levels are 500 mg/L, 500 mg/L, and 1,000 mg/L for chloride, sulfate, and TDS, respectively.

N/A Not available.

MCL Maximum contaminant level.

Source: Kennedy/Jenks/Chilton, 1988.

Table 8

ALAMO RIVER OUTLET WATER QUALITY ANALYSIS<sup>1</sup>

<u>Constituent or Characteristic</u>	<u>Concentrations (mg/l)</u>
pH	6.9
Calcium (Ca)	191
Magnesium (Mg)	166
Sodium (Na) + Potassium (K)	562
Bicarbonate (HCO <sub>3</sub> )	168
Sulfate (SO <sub>4</sub> )	604
Chloride (Cl)	1094
Total Dissolved Solids (TDS)	1828

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<sup>1</sup>Sample Date 6/9/88

Source: Imperial Irrigation District 1988

**Table 9**  
**ALL AMERICAN CANAL**  
**WATER QUALITY ANALYSIS<sup>1</sup>**

<u>Constituent or Characteristic</u>	<u>Concentration (mg/l)</u>
pH	6.5
Calcium (Ca)	90
Magnesium (Mg)	49
Sodium (Na) + Potassium (K)	85
Bicarbonate (HCO <sub>3</sub> )	40
Sulfate (SO <sub>4</sub> )	380
Chloride (Cl)	154
Total Dissolved Solids (TDS)	626

---

<sup>1</sup>Sample Date 6/9/88

Source: Imperial Irrigation District 1988

Table 10

NEW RIVER OUTLET WATER QUALITY ANALYSIS<sup>1</sup>

<u>Constituent or Characteristic</u>	<u>Concentrations (mg/l)</u>
pH	7.3
Calcium (Ca)	261
Magnesium (Mg)	177
Sodium (Na) + Potassium (K)	402
Bicarbonate (HCO <sub>3</sub> )	235
Sulfate (SO <sub>4</sub> )	645
Chloride (Cl)	908
Total Dissolved Solids (TDS)	2,287

---

<sup>1</sup>Sample Date 6/9/88

Source: Imperial Irrigation District 1988

Table 11

SALTON SEA<sup>1</sup> WATER QUALITY ANALYSIS<sup>2</sup>

<u>Constituent or Characteristic</u>	<u>Concentrations (mg/l)</u>
pH	7.5
Calcium (Ca)	1246
Magnesium (Mg)	2633
Sodium (Na) + Potassium (K)	11,242
Bicarbonate (HCO <sub>3</sub> )	181
Sulfate (SO <sub>4</sub> )	9000
Chloride (Cl)	20,500
Total Dissolved Solids (TDS)	25,079

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<sup>1</sup>Testing site located between the New and Alamo Rivers

<sup>2</sup>Sample Date 5/9/88.

Source: Imperial Irrigation District 1988

Table 12

**EPA PRIMARY DRINKING WATER REGULATIONS  
MAXIMUM CONTAMINANT LEVELS**

<u>Constituent</u>	<u>EPA Maximum Contaminant Level</u>
<b>Inorganic Chemicals</b>	
Arsenic	0.05 mg/l
Barium	1.0 mg/l
Cadmium	0.010 mg/l
Chromium	0.05 mg/l
Fluoride	1.4 - 2.4 mg/l
Lead	0.05 mg/l
Mercury	0.002 mg/l
Nitrate (as N)	10.0 mg/l
Selenium	0.01 mg/l
Silver	0.05 mg/l
<b>Organic Chemicals</b>	
Total Trihalomethanes	0.1 mg/l
<b>Chlorinated Hydrocarbons</b>	
Endrin	0.0002 mg/l
Lindane	0.004 mg/l
Methoxychlor	0.1 mg/l
Toxaphene	0.005 mg/l
<b>Chlorophenoxys</b>	
2, 4-D	0.1 mg/l
2, 4, 5-TP Silvex	0.01 mg/l
<b>Physical Parameters</b>	
Turbidity	1.0 TU
<b>Radioactivity</b>	
Gross Alpha	15.0 (pCi/l)
Radium-226 and -288	5.0(pCi/l)
Tritium	20,000.0 (pCi/l)
Strontium-90	8.0 (pCi/l)
<b>Bacteriological Factors</b>	
Coliform Bacteria	1.0 (per 100 ml)

Table 13

EPA SECONDARY DRINKING WATER REGULATIONS  
CALIFORNIA SECONDARY DRINKING WATER STANDARDS

<u>Constituents</u>	<u>Units</u>	<u>EPA Maximum Contaminant Level</u>	<u>California Maximum Contaminant Level</u>
Chloride	mg/l	250	250 <sup>a</sup>
Color	(color units)	15	15
Copper	mg/l	1	1
Corrosivity	--	Non-corrosive	Relatively low
Foaming Agents	mg/l	0.5	0.5
Iron	mg/l	0.3	0.3
Manganese	mg/l	0.05	0.05
Odor	(TON)	3	3
pH	---	6.5 - 8.5	---
Sodium <sup>b</sup>	mg/l	20	*
Sulfate	mg/l	250	250 <sup>a</sup>
Total Dissolved Solids	mg/l	500	500 <sup>c</sup>
Zinc	mg/l	5	5

\* = Technically not a part of the Title 22 requirements

TON = Threshold Odor Number

a = Upper MCL = 500; Long-Term MCL = 600

b = The sodium MCL is a recommended "optimal limit" and is not enforceable

c = Upper MCL = 1000; Long-Term MCL = 1500

**TABLE 14**  
**CAPACITY OF EXISTING PROCESS UNITS**

ITEM NO.	ITEM	CRITERIA	TOTAL CAPACITY MGD
1.	Influent Pump Station	2.0 peaking factor	1.6
2.	Grit Chamber @ peak flow	16,000 GPD/sq. ft.	0.8
3.	Aeration Basin		
	Volume	20 hr. detention time	0.8
	Aeration	1.8 lb 22/hp-hr	1.1
4.	Intermediate Pump Station	2.0 peaking factor	2.1
5.	Aerobic Digestion	15 day SRT or 20 day HRT based on effluent sludge flow	1.0
6.	Sludge Drying Beds	3 sq ft/capita	0.2
7.	Pipelines		
	12" pressure line to aeration basin	6 ft/sec 2.0 peaking factor	1.6
	12" pressure line to clarifiers	6 ft/sec 2.0 peaking factor	1.6
	12" gravity line from clarifiers	2.0 peaking factor	0.8
	18" gravity outfall line	2.0 peaking factor	1.6

**TABLE 15**

**RECOMMENDED IMPROVEMENTS TO EXPAND THE EXISTING FACILITY  
TO 1.6 MGD AND  
ENGINEER'S OPINION OF PROBABLE COSTS**

ITEM NO.	ITEM	PROJECTED COST
1	Install a 1250 gallon per minute variable speed pump at the influent pump station. Install upstream and downstream piping and fittings necessary to connect to existing facilities.	\$ 19,500
2	Construct an additional 3740 gallon grit chamber.	39,500
3	Construct a new 700,000 gallon Aeration Basin including mechanical aeration brushes and three (3) centrifugal mixed liquor pumps.	454,500
4	Construct a new 50 foot diameter 190,800 gallon P.C.C. clarifier with all required mechanical equipment.	238,500
5	Construct a new P.C.C. 100,000 gallon aerobic digester with two (2) new 300 CFM air blowers and all necessary mechanical piping.	135,000
6	Construct four (4) additional P.C.C. sludge beds.	220,000
7	Construct a new P.C.C. chlorine contact basin with all required mechanical equipment and a new dechlorination station with chemical storage facilities.	195,000
8	Install a waste activated sludge magnetic flowmeter with indicator.	11,500
9	Install a return activated sludge magnetic flowmeter, P.C.C. flowmeter vault and recorder indicator totalizer.	29,500
10	Install all required piping, fittings and valves required between the above listed facilities.	224,000
11	Install a new electrical distribution switchboard, motor control center, variable speed control system and the installation of all electrical control, instrumentation and electrical circuitry including all electrical service and hook-up charges.	98,000
12	Site Fencing.	12,500
13	Construct new equipment storage area.	25,000

TABLE 15 (cont.)

	Subtotal 1,702,500
	Contingency @ 15% 255,375
	Subtotal 1,957,875
Engineering Design for new facilities from the American Society of Civil Engineers; Cost Curve @ 7% + 1.5% factor for unforeseen Site Conditions relative to existing facility	166,419
Geotechnical Report	8,000
Advertising and Bidding Phase of Project 1/2%	9,790
Construction Administration, Inspection and Staking 7%	137,051
	TOTAL 2,279,135

**TABLE 16**

**RECOMMENDED NEAR-TERM IMPROVEMENTS  
AND ENGINEER'S OPINION OF PROBABLE COSTS**

ITEM NO. ITEM	PROJECTED COST
1 Install an influent flowmeter/headworks vault. Install a new automatic barscreen.	\$ 147,000
2 Bypass the raw wastewater influent flow around the Pump Station structure. Inspect the Pump Station wet well concrete walls and ceilings for hydrogen sulfide damage. Hydroblast the existing concrete walls and ceilings prior to inspection. Remove concrete residue from the wet well prior to allowing the raw wastewater influent from entering the wet well.	12,500
3 Rehabilitate the existing variable speed pump control system or install a new variable speed control system for the influent pump station pumps.	6,500
4 Adjust the depth of the brushes below the liquid surface of the Aeration Tank until the maximum oxygen transfer rate is obtained. To accomplish this, the weir level at the discharge point from the Aeration Basin should be raised. This task can be accomplished by the Wastewater Treatment Plant personnel.	0
5 Rehabilitate the existing variable speed pump control system or install a new variable speed control system for the mixed liquor pumps located near the Aeration Basin.	6,500

TABLE 16 (cont.)

ITEM NO.	ITEM	TOTAL
6	At the completion of the construction of the new sludge beds, the aerobic digester should be reactivated. This can be accomplished by the Wastewater Treatment Plant personnel.	0
7	Construct four (4) P.C.C. sludge beds to allow for the drying of the existing waste sludge. Construct a 6 inch forcemain from the existing sludge pumps to the new sludge beds. Construct a sludge filtrate pump station and forcemain to return the sludge filtrate to the Aeration Basins.	263,400
		Subtotal 435,900
		Contingency @ 15% 65,385
		Subtotal 501,285
Engineering Design for new facilities from the American Society of Civil Engineers; Cost Curve @ 8.52% + 2% factor for unforeseen Site Conditions relative to existing facility		52,736
Geotechnical Report		5,000
Advertising and Bidding Phase of Project 1/2%		2,506
Construction Administration, Inspection and Staking 7.2%		36,092
		TOTAL 597,619

TABLE 17

		NOISE LEVEL (dBA) AT 50 FEET						
		60	70	80	90	100	110	
EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES	EARTH MOVING	COMPACTERS (ROLLERS)			█			
		FRONT LOADERS		█	█			
		BACKHOES		█	█	█		
		TRACTORS			█	█	█	
		SCRAPERS, GRADERS			█	█		
		PAVERS				█		
		TRUCKS				█	█	
	MATERIALS HANDLING	CONCRETE MIXERS			█	█		
		CONCRETE PUMPS			█			
		CRANES (MOVABLE)			█	█		
		CRANES (DERRICK)				█		
	STATIONARY	PUMPS		█				
		GENERATORS		█	█			
		COMPRESSORS			█	█		
IMPACT EQUIPMENT	PNEUMATIC WRENCHES			█				
	JACK HAMMERS AND ROCK DRILLS			█	█			
	PILE DRIVERS (PEAKS)					█	█	
OTHER	VIBRATORS		█	█				
	SAWS		█	█				

NOTE: Based on limited available data samples.

SOURCE: EPA PB 208717, Environmental Protection Agency, Dec. 31, 1971, "Noise from Construction Equipment & Operations"

Typical Construction Equipment Noise Generation Levels

Table 18  
The Modified Mercalli Scale of Earthquake Intensities

*If most of these effects are observed*

*then the intensity is:*

*If most of these effects are observed,*

*then the intensity is:*

Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly.

I

*Effect on people:* Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.

II

*Effect on people:* Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.

III

*Other effects:* Hanging objects swing.  
*Structural effects:* Windows or doors rattle. Wooden walls and frames creak.

IV

*Effect on people:* Felt by everyone indoors. Many estimate duration of shaking, but still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls.

V

*Other effects:* Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink.  
*Structural effects:* Doors close, open or swing. Windows rattle.

*Effect on people:* Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers awakened.

VI

*Other effects:* Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset.  
*Structural effects:* Weak plaster and Masonry D\* crack. Windows break. Doors close, open or swing.

*Effect on people:* Felt by everyone. many are frightened and run outdoors. People walk unsteadily.

VII

*Other effects:* Small church or school bells ring. Pictures thrown off walls, knickknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle.  
*Structural effects:* Masonry D\* damaged; some cracks in Masonry C\*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.

*Effect on people:* Difficult to stand. Shaking noticed by auto drivers.

*Other effects:* Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver.

*Structural effects:* Masonry D\* heavily damaged; Masonry C\* damaged, partially collapses in some cases; some damage to Masonry B\*; none to Masonry A\*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.

VIII

*Effect on people:* General fright. People thrown to ground.

*Other effects:* Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees.

*Structural effects:* Masonry D\* destroyed; Masonry C\* heavily damaged, sometimes with complete collapse; Masonry B\* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Reservoirs seriously damaged. Underground pipes broken.

IX

*Effect on people:* General Panic.

*Other effects:* Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed.

*Structural effects:* Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.

X

*Effect on people:* General panic.

*Other effects:* Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.

*Structural effects:* General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.

XI

*Effect on people:* General panic.

*Other effects:* Same as for Intensity X.

*Structural effects:* Damage nearly total, the ultimate catastrophe.

*Other effects:* Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

XII

\*Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.

\*Masonry B: Good workmanship and mortar, reinforced.

\*Masonry C: Good workmanship and mortar, unreinforced.

\*Masonry D: Poor workmanship and mortar and weak materials, like adobe.

TABLE 19

DEPARTMENT OF FINANCE  
 CALIFORNIA STATE CENSUS DATA CENTER  
 915 L STREET, LOWER LEVEL, SACRAMENTO, CA 95814  
 PHONE: (916) 323-2201

REPORT C90-PL-1  
 TABLE 1: POPULATION AND PERCENT DISTRIBUTION BY RACE (HISPANIC EXCLUSIVE)  
 SOURCE: 1990 CENSUS, P.L. 94-171 (REDISTRICTING) FILE

COUNTY/PLACE	TOTAL POPULATION	WHITE	BLACK	AMERICAN INDIAN, ESKIMO, ALEUT	ASIAN & PACIFIC ISLANDER	OTHER	HISPANIC
Imperial County	109303	31742 29.0%	2272 2.1%	1563 1.4%	1632 1.5%	159 .1%	71935 65.8%
Brawley City	18923	5190 27.4%	421 2.2%	61 .3%	155 .8%	20 .1%	13076 69.1%
Calixico City	18633	416 2.2%	21 .1%	5 .0%	365 2.0%	20 .1%	17806 95.6%
Calipatria City	2690	578 21.5%	89 3.0%	7 .3%	22 .8%	8 .3%	1995 74.2%
El Centro City	31384	8890 28.3%	1186 3.8%	126 .4%	642 2.0%	58 .2%	20482 65.3%
Haber CDP	2566	73 2.8%	3 .1%	1 .0%	4 .2%	2 .1%	2483 96.8%
Holtville City	4820	1761 36.5%	8 .2%	12 .2%	19 .4%	9 .2%	3011 62.5%
Imperial City	4113	1740 42.3%	134 3.3%	32 .8%	18 .4%	13 .3%	2176 52.9%
Niland CDP	1183	634 53.6%	15 1.3%	16 1.4%	89 7.5%	2 .2%	427 36.1%
Seeley CDP	1228	351 28.6%	10 .8%	2 .2%	18 1.5%	0 .0%	847 69.0%
Westmorland City	1460	348 25.2%	19 1.4%	4 .3%	5 .4%	7 .5%	997 72.2%

TABLE 20

DEPARTMENT OF FINANCE  
 CALIFORNIA STATE CENSUS DATA CENTER  
 915 L STREET, LOWER LEVEL, SACRAMENTO, CA 95814  
 PHONE: (916) 323-2201

REPORT C90-PL-1  
 TABLE 2: TOTAL POPULATION, TOTAL HOUSING UNITS, POPULATION 18+, PERSONS PER SQUARE MILE (DENSITY)  
 SOURCE: 1990 CENSUS, P.L. 94-171 (REDISTRICTING) FILE

COUNTY/PLACE	TOTAL POPULATION	TOTAL HOUSING UNITS	POPULATION 18+	PERSONS PER SQUARE MILE
Imperial County	109303	36559	71844	26.18
Brawley City	18923	6124	12149	3808.90
Calexico City	18633	4832	11653	4526.86
Calipatria City	2690	767	1618	1465.86
El Centro City	31384	10180	20140	5022.16
Heber CDP	2566	600	1624	1738.36
Holtville City	4820	1477	3124	4437.90
Imperial City	4113	1372	2753	1704.45
Niland CDP	1183	535	879	2905.92
Seeley CDP	1228	365	750	1018.16
Westmorland City	1380	432	870	3592.81

## B. FIGURES

# CITY OF IMPERIAL CALIFORNIA

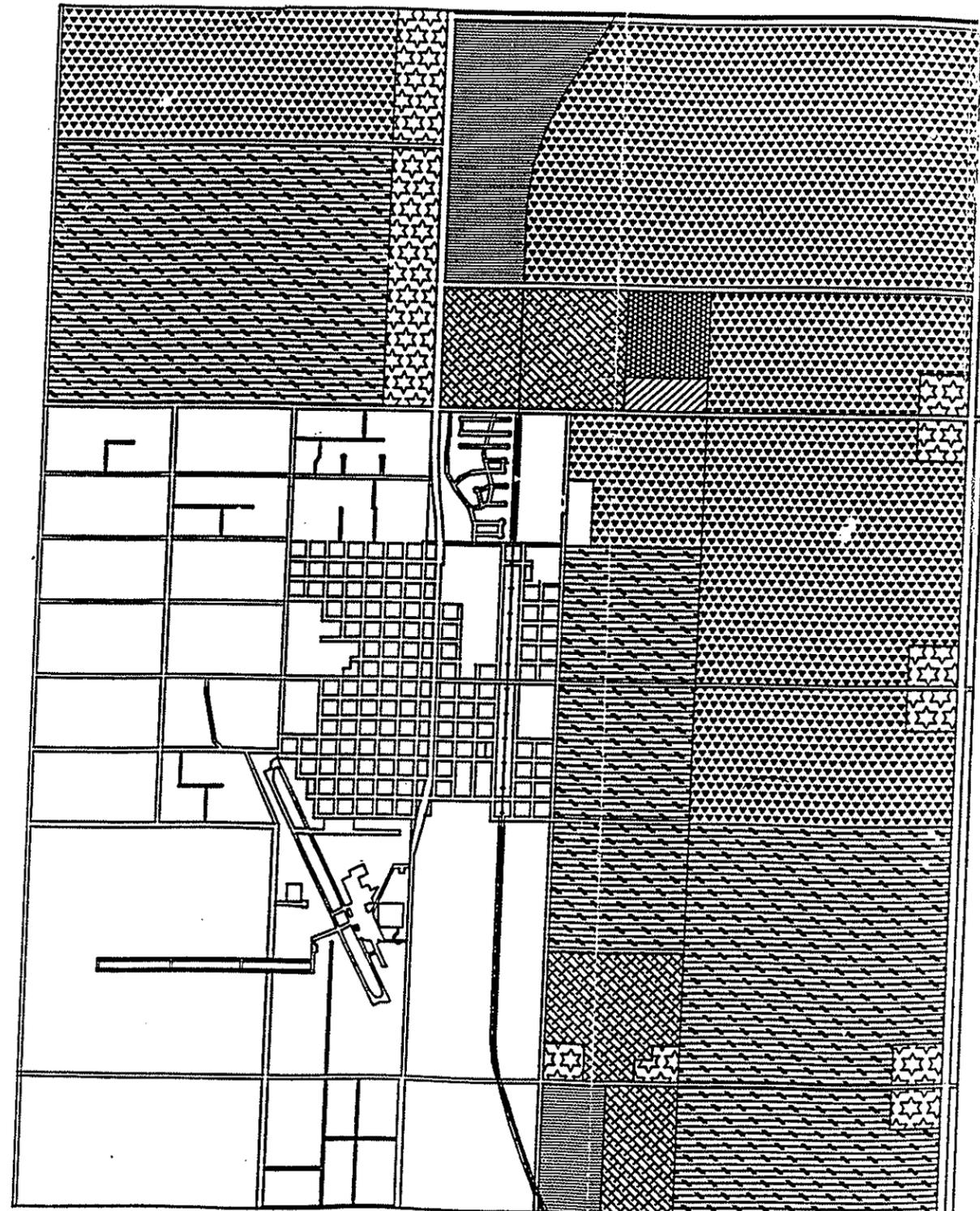
GENERAL PLAN  
LAND USE AND CIRCULATION  
JULY 1992



Imperial

Figure 1

Future Land Use  
Year 2015



-  RURAL RESIDENTIAL (0.5 - 1.0 DU/AC)
-  LOW DENSITY RESIDENTIAL (1.0 - 2.0 DU/AC)
-  LOW MEDIUM DENSITY RESIDENTIAL (2.0 - 5.0 DU/AC)
-  RESIDENTIAL CONDOMINIUM (5.0 - 20.0 DU/AC)
-  MULTIPLE FAMILY RENTAL RESIDENTIAL (20.0 - 100.0 DU/AC)
-  MOBILE HOME PARK (5.0 - 8.0 DU/AC)
-  VILLAGE COMMERCIAL
-  NEIGHBORHOOD COMMERCIAL
-  AUTO MALL
-  COMMERCIAL OFFICE
-  GENERAL INDUSTRIAL
-  RAIL - SERVED INDUSTRIAL
-  AGRICULTURE
-  PUBLIC USE
-  RAIL TRACKS
-  MAJOR CANALS

Figure LU-1

# CITY OF IMPERIAL CALIFORNIA

GENERAL PLAN  
LAND USE AND CIRCULATION  
JULY 1992

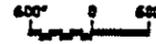
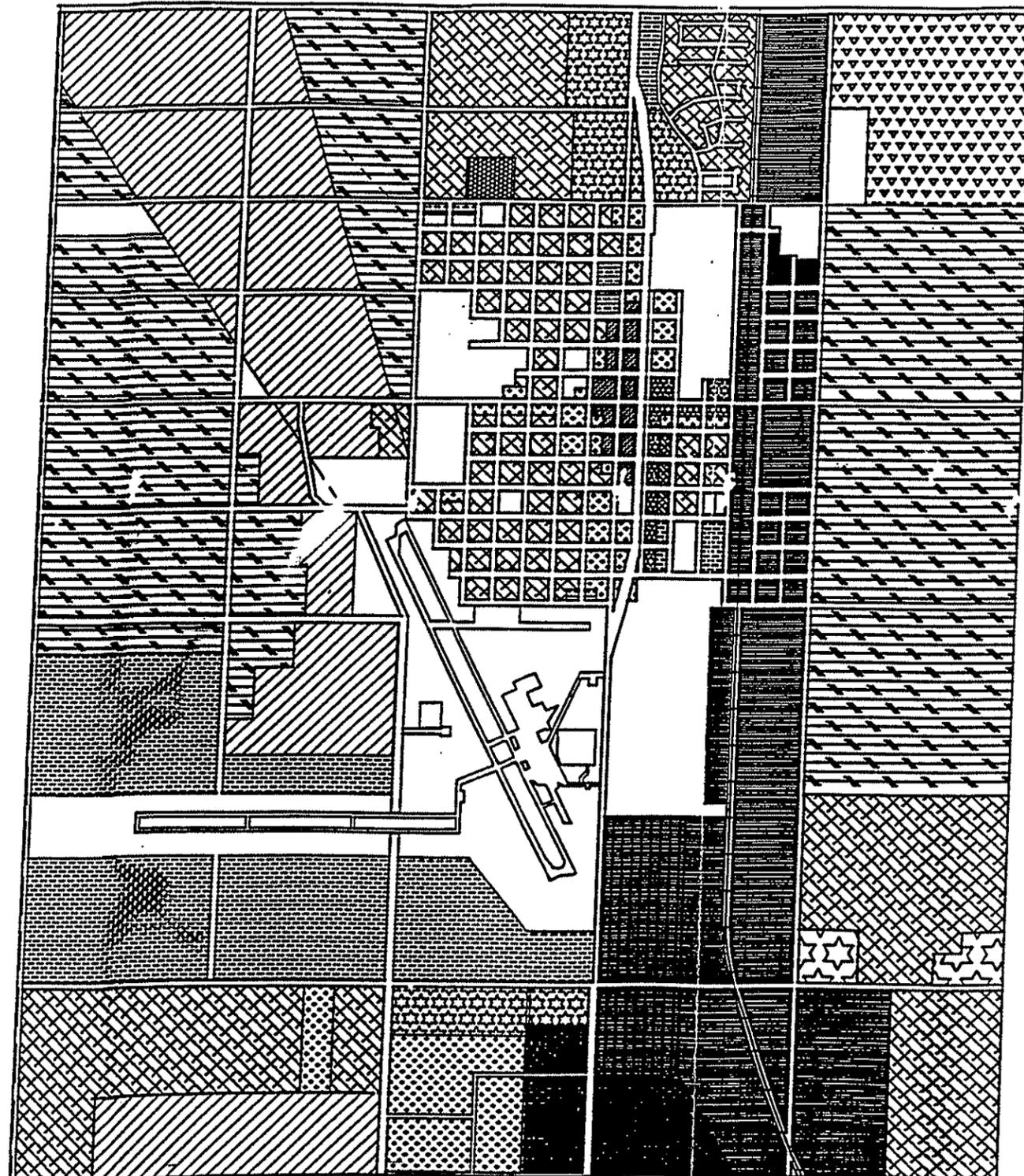


Figure 2

Future Land Use  
Year 2015



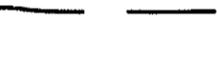
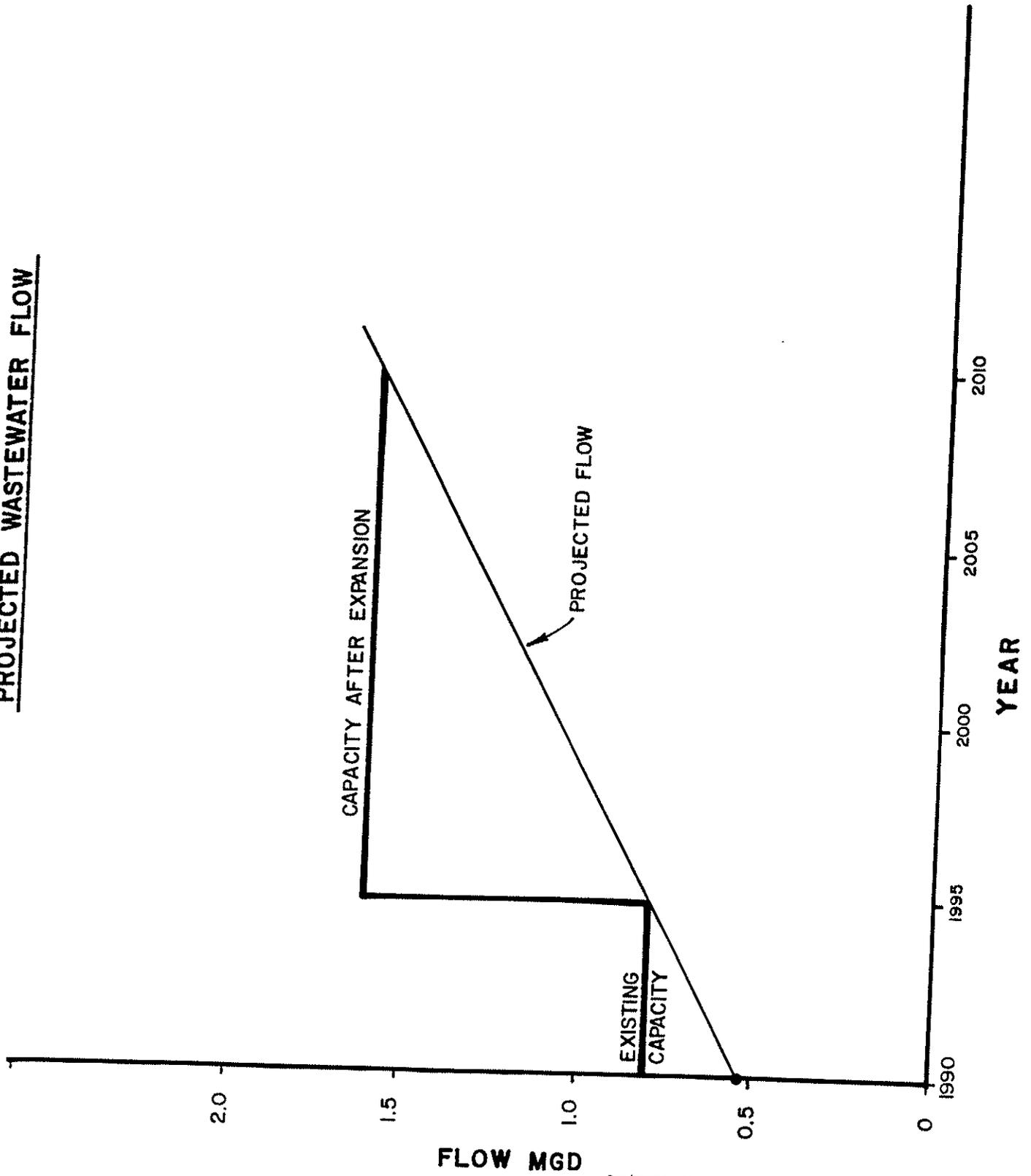
-  RURAL RESIDENTIAL (0.5 - 1.0 DU/AC)
-  LOW DENSITY RESIDENTIAL (1.0 - 2.0 DU/AC)
-  LOW MEDIUM DENSITY RESIDENTIAL (2.0 - 5.0 DU/AC)
-  RESIDENTIAL CONDOMINIUM (5.0 - 20.0 DU/AC)
-  MULTIPLE FAMILY RENTAL RESIDENTIAL (20.0 - 31.0 DU/AC)
-  MOBILE HOME PARK (5.0 - 8.0 DU/AC)
-  VILLAGE COMMERCIAL
-  NEIGHBORHOOD COMMERCIAL
-  AUTO MALL
-  COMMERCIAL OFFICE
-  GENERAL INDUSTRIAL
-  RAIL - SERVED INDUSTRIAL
-  AGRICULTURE
-  PUBLIC USE
-  RAIL TRACKS
-  MAJOR CANALS

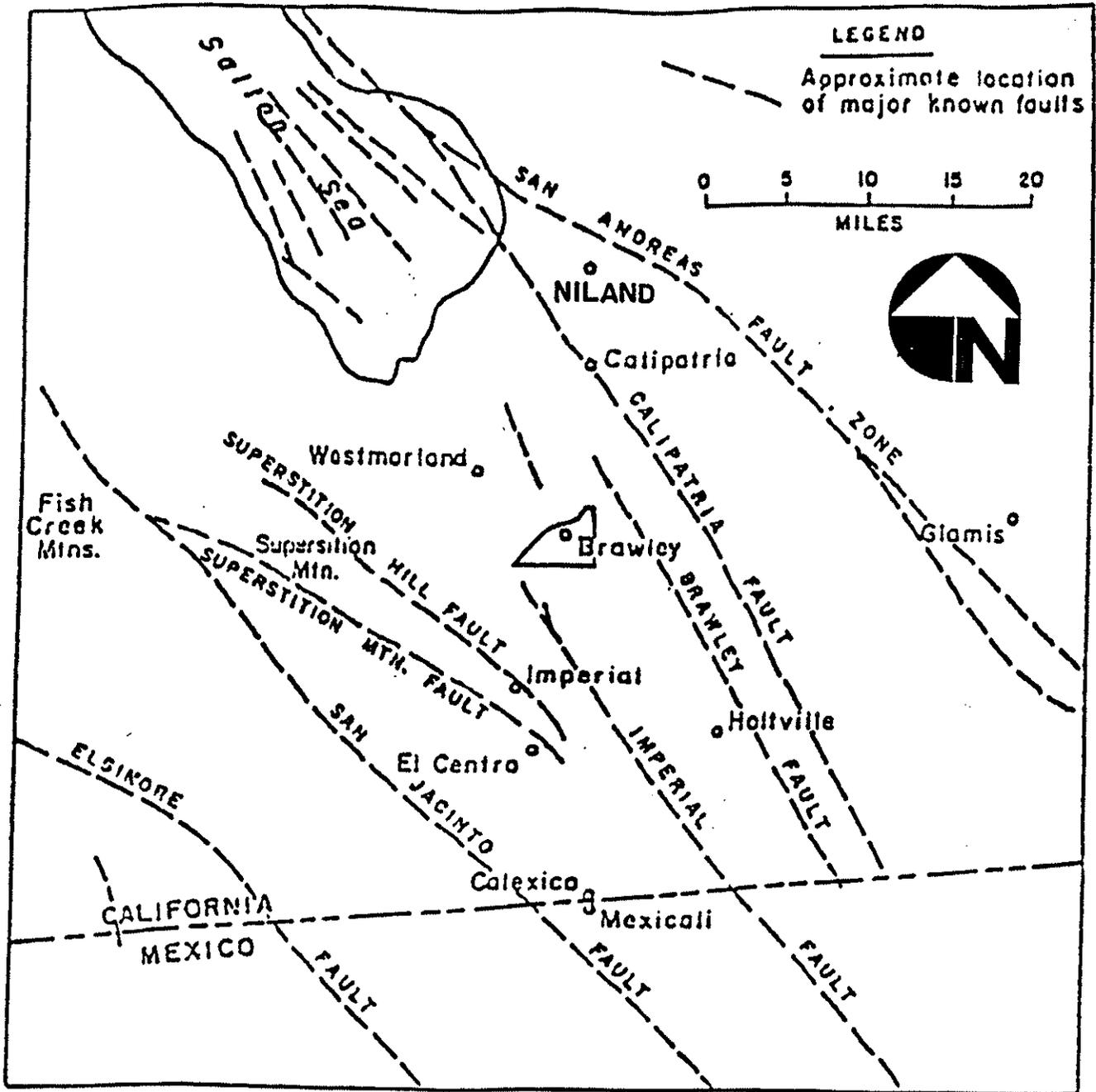
Figure LU-2

PROJECTED WASTEWATER FLOW



CITY OF IMPERIAL  
CALIFORNIA  
**MASTER SEWER PLAN**  
Figure 3

FIGURE 4





## C. EXHIBITS

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF AERONAUTICS

1130 K STREET - 4th FLOOR

MAIL: P. O. BOX 942873

SACRAMENTO, CA 94273-0001

(916) 322-3090

TDD (916) 654-4014

EXHIBIT 1

October 22, 1992

Mr. Mike Gaston  
City of Imperial  
420 South Imperial Avenue  
Imperial, CA 92551

Dear Mr. Gaston:

City of Imperial's General Plan  
Revision Project DEIR; SCH #92071056

The California Department of Transportation, Division of Aeronautics, has reviewed the above-referenced document with respect to those areas germane to the Division's statutory responsibilities pursuant to CEQA. The following comments are offered for your consideration.

Imperial County Airport is within the City's General Plan sphere of influence. It is considered to be an active airport with 61,000 current annual operations and an anticipated 102,000 future operations according to the Imperial County Airport Land Use Compatibility Plan (ALUCP). In reviewing the draft EIR, the Division is concerned with incompatible land uses in the vicinity of the airport which could result in airport-related noise and safety impacts on future development as well as negative impacts from future development on airport operations.

According to the DEIR, although the airport will continue to operate through the year 2015, it is not anticipated that runway expansion or changes in the category of aircraft will occur. The DEIR also states that the "revised General Plan contains mitigation measures to ensure residences are not constructed in high noise areas." These mitigation measures and the term "high noise areas" should be discussed in more detail in the Final EIR. The ALUCP considers single family residential to be marginally acceptable within the 55-60 Community Noise Equivalent Level (CNEL) and normally unacceptable with the 60-65 CNEL.

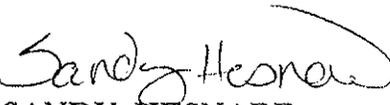
The land use designations as depicted in Figures LU-1 and LU-2, appear to be in conflict with the ALUCP's compatibility criteria. According to the ALUCP, acceptable uses within Airport Safety Zone A would include aircraft tiedown aprons, pastures, field crops, vineyards and automobile parking. Within B1 and B2, in addition to those uses listed for A, any agricultural uses (except ones attracting bird flocks), warehousing, truck terminals and single-story offices are acceptable. Residential uses are permitted provided the density levels do not exceed 0.1 within B1 and 0.5 within B2.

Mr. Mike Gaston  
October 22, 1992  
Page 2

The General Plan Revision should be coordinated with Imperial County Airport and the Imperial County Airport Land Use Commission (ALUC) to ensure that it will be consistent with the ALUCP and future airport operations.

Thank you for the opportunity to review and comment on this proposal.

Sincerely,

  
SANDY HESNARD  
Environmental Planner

cc: Imperial County Airport  
Imperial County ALUC  
State Clearinghouse

## EXHIBIT 2

Response to letter from State Department of Transportation, Division of Aeronautics.  
(Sandy Hesnard - Environmental Planner).

Regarding the comment on incompatible land uses and mitigation measures, the EIR has been revised to include mitigation measures for the General Plan Land Use Element, Noise Element, and Safety Element. The term "high noise areas" has been clarified to be those areas with greater than a 65 dba CNEL noise level.

The City of Imperial has chosen to adopt the minimum State and FAA recommendations for noise exposure to sensitive uses. This noise level threshold is the 65 dba CNEL noise level. The County has adopted more restrictive criteria, however, the City of Imperial has not adopted the more restrictive criteria due to the fact it would overly restrict new growth and hamper the economic development of the City. The City considers the expansion of the sales tax base and the creation of new jobs to be of utmost importance for the overall welfare of the citizens.

The City's analysis of the County Airport Land Use Plan, through an independent Orange County Consultant, has revealed that the plan is flawed in several areas. Specifically, the land use restrictions, contained in the County plan for the designated B-1 and B-2 zones, are irrelevant for the following reasons:

1. They are based on data which is irrelevant and obsolete.
2. The data are unreliable for the types of aircraft activities at the Imperial County airport.
3. There is an inadequate analysis of current and projected aircraft activities.

The City's independent Consultant goes on to make the following additional statements in a report pertaining to the B-1 and B-2 zones:

1. It is highly unlikely that the airport safety zones accurately reflect both the types or numbers of aircraft activities, or the real potential of an aircraft accident at the airport.
2. The County airport plan is void of current or forecast data to reflect realistic and comprehensive airport aviation activity or aircraft accident history.
3. The B-1 and B-2 airport zones and their respective land use restrictions, identified for the Imperial County Airport, are extremely vague and inappropriate.
4. The County airport plan, as it relates to the Imperial County Airport, is at best well intended and overly conservative, and at worst an entirely unreliable, inadequate, and therefore inappropriate and unnecessary set of land use restrictions.

Due to the inaccuracy and vagueness of the County plan, the City does not intend to revise its general plan to be overly restrictive for new development in the proposed B-1 and B-2 zones. In the opinion of the City's Consultants and Staff, the City's proposed General Plan provides adequate and realistic protection for the public health and safety.

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# AGRICULTURAL

SEALER OF WEIGHTS



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# COMMISSIONER

AND MEASURES

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STEPHEN L. BIRDSALL • COMMISSIONER • DIRECTOR  
MIGUEL A. MONROY • ASSISTANT COMMISSIONER • DIRECTOR

150 SOUTH NINTH STREET • EL CENTRO, CA 92243-2850  
TELEPHONE: (619) 339-4314

EXHIBIT 3

October 29, 1992

TO: Mike Gaston  
The Holt Group

FROM: Stephen L. Birdsall  
Imperial County Agricultural Commissioner

SUBJECT: City of Imperial Agricultural Environmental Impact Report

Attached please find my comments in regards to the Agricultural analysis and impact of the annexation of 2,640 acres of agriculture land to urban use.

cc: Bayani I. Mauricio  
Director of P.O./Planning  
City of Imperial

Ray Borton  
California Dept. of Food and Agriculture  
Sacramento, California

The City of Imperial has proposed a General Plan to add 2,640 acres of agricultural land to urban uses. The plan will extend north to Harris Road, east to Dogwood Road, west to Austin Road, and south to Treshill Road. After reading the Agricultural Resources analysis, impacts, and mitigation measures our main concern is to protect the existence of the agricultural land. Our comments on the maps and mitigating measures are as follows:

1. MAPS

- LU-2 - Land Use Plan - Existing City Limits
- LU-1 - Land Use Plan - Sphere of Influence

It is not clear which land sites are currently fallow or in are in agriculture use.

2. MITIGATION MEASURES

- a. Direct new growth to the least productive agricultural land.

The agricultural land types have not been described by site in the General Plan. The LU-1 map suggests that all the land to be brought into the city is on the north and east sides of the Imperial. Has this been identified as the least productive land is it consistent with the mitigation measures.

- d. "...speculation purposes shall be strongly discouraged."

How is this going to be enforced.

- h. suggests protecting "...those lands best suited for non-urban uses."

There is no identification of these sites or a suggested means to follow through with this measure.

- i. Provides a minimum buffer of 300 feet between agricultural and urbanization uses.

A 1,000 foot green belt buffer is more appropriate and could be used to establish maintained parks and recreational areas. Lack of recreational opportunities will create potential trespassing, vandalism and liability problems on adjoining farming operations. This E. I. R. does not address any parks and recreation areas for the population residing in the newly developed residential areas. Population growth through this annexation will impact existing county and neighboring city park facilities.

1. Adopt appropriate zoning for prime agriculture land to the extent feasible.

This is vague and contrary to the dialogue of the General Plan.

- m-p. These measures refer to zoning of agricultural land and its protection through zoning.

The means and methods to fulfill these measures need to be more specific as to identification of agricultural land and its zoning. A classification or ranking system by which land needed for urbanization should be established to preserve and reserve the prime agricultural land. Safeguards should be established so that agricultural zoning changes must go through extensive review.

- r-t. These measures need to be addressed by a site history with crop and yields per field to determine the value of the agriculture land and whether or not it should be conserved as such.

Land that is in agricultural production has an impact on the economy of Imperial Valley. Private sector sales, personal income and jobs are all created and impacted with the production of every agricultural crop.

## EXHIBIT 4

Response to letter from Imperial County Agricultural Commissioner. (Stephen L. Birdsall).

### Response to Comment 1 (Maps)

It is not the intent of figures LU-1 and LU-2 to show existing land use. These maps project future land uses through the year 2015. The purposes of these maps has been clarified by additional labeling.

### Response to Comment 2 (Mitigation Measures)

It is the intent of the City of Imperial to direct new growth to the least productive agricultural land, when feasible. However, other planning considerations (i.e. land use conflicts around the Imperial County Airport and Naval Air Facility) may require that some prime farm land be converted to urban uses. Another planning consideration is the State mandated responsibility of the City to provide adequate and appropriate sites for new housing to serve all income groups. The specific sites and areas proposed for new urban development, and the classification of these sites by the State Department of Conservation, has been added to the text of the General Plan Conservation Element.

Regarding developer speculation, this is an issue that can be enforced through development agreements.

Regarding protection of lands best suited for non-urban uses, this will be addressed by identifying important farmland and protecting this farmland by appropriate agricultural zoning classifications. As previously mentioned above, it may not be possible to protect all agricultural land from conversion to urban uses due to other planning considerations.

Regarding the agricultural buffer, it is not feasible to establish a 1,000 foot buffer in all areas. The City does not have the financial resources or personnel to maintain the vast amounts of park and recreational open space land that would be involved with a 1,000

foot buffer. When individual residential subdivisions are approved, park land dedication and/or payment of in lieu fees under the Quimby Act will be required. The exact locations and areas of future park sites will be determined during the design review phase for the tentative subdivision maps. The City's Parks and Recreation Element establishes an objective to provide 5 acres of recreation open space land for every 1,000 residents. Therefore, the City's future population is assured that adequate new park sites will be developed when new projects are built out.

Regarding the pre-mature conversion of agricultural land, zone change requests will be subject to a public hearing before both the Planning Commission and City Council. All interested persons/agencies will have the opportunity to comment on and/or object to the zone change. The City Council will make zone change decisions based upon the best interests of the entire community. Typical crop yields for basic soil types have been included in the draft EIR. Attempting to regulate urban development based upon site history and yields of crops for specific sites could result in an incompatible and irregular development pattern and would not result in good planning.

## PLANNING DEPARTMENT

IMPERIAL COUNTY

PLANNING / BUILDING INSPECTION / PLANNING COMMISSION / A.L.U.C. / I.A.F.Co.

Jurg Heuberger - Director

October 29, 1992

EXHIBIT 5

Mike Gaston  
 The Holt Group  
 4784 Highway 111  
 Brawley, California 92227

Re: City of Imperial General Plan DEIR

Dear Mr. Gaston:

The Planning Department has reviewed the City of Imperial General Plan Draft Environmental Impact Report (DEIR) as it pertains to County lands, Airport Land Use Compatibility Plan (ALUCP) and County airport.

The DEIR does not discuss the impacts resulting from encroachment of incompatible land uses within the vicinity of the Imperial County Airport. The DEIR must address the noise and safety problems related to future development near the airport as well as the detrimental effects development will have on airport operations. The DEIR should discuss the cumulative impacts that development will have on the airport, the severity of the impacts and the likelihood of their occurrence. The document should also discuss the potential for future development to cause an alteration to air traffic.

The DEIR's summary should include a discussion of the proposed actions and their effects on existing and future airport operations, proposed mitigation measures and alternatives that would reduce or avoid the effects.

Figures LU-1 and LU-2 propose land use designations that are inconsistent with the compatibility criteria of the ALUCP. Please refer to Figure 3E and Table 2A of the ALUCP.

On February 12, 1992, the General Plan was reviewed by the Airport Land Use Commission and found to be inconsistent with the ALUCP. City representatives requested the Commission continue the item for 6-7 months so that the

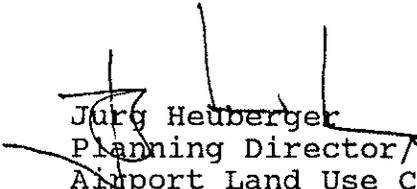
General Plan could be revised to be consistent with the ALUCP. Unfortunately, the updated General Plan remains inconsistent with the ALUCP. The General Plan should be revised in recognition of the ALUCP so that the City's future development will not be exposed to noise and safety problems and have negative impacts on airport operations.

On behalf of the Commission, we must advise you that neither the Draft General Plan nor the DEIR address and mitigate ALUCP concerns and the Commission will once again be required to find the project inconsistent.

Having reviewed both the Draft General Plan and the DEIR and we regret to inform you that the documentations is substantially inadequate on compliance with the General Plan Guidelines, CEQA and the ALUCP.

If you have any questions, please call Jesse Soriano at 339-4236. Thank you for providing the Planning Department the opportunity to review and comment on the document.

Sincerely,

  
Jurg Heuberger  
Planning Director/Secretary  
Airport Land Use Commission

cc: Joanne Yeager, Assistant County Counsel  
Bay Mauricio, City of Imperial Public Works  
Dan Pavao, Airport Manager  
10.104/10.105/10.106/10.109/File

ALUC/P85/JFS

## EXHIBIT 6

Response to letter from Imperial County Planning Department. (Jurg Heuberger - Planning Director).

Regarding the issue of compatibility of the City's General Plan with the County Airport Land Use Plan, the City retained an independent Orange County Consultant to review and analyze the County plan. Based on this analysis, it is the position of the City that the County's plan is based on obsolete, unreliable, and irrelevant data for the types of aircraft activities at the airport in the long range future. Therefore, it is highly unlikely that the Airport Safety Zones, as contained in the County plan, accurately reflect both the types or numbers of aircraft activities, or the real potential of an aircraft accident at the Airport.

The County Airport Plan is void of current or forecast data to reflect realistic and comprehensive Airport aviation activity or aircraft accident history.

The B-1 and B-2 Airport Zones and their respective land use restrictions identified for the Imperial County Airport, are extremely vague, and inappropriate.

The County Airport Plan, as it relates to the Imperial County Airport is at best, well intended and overly conservative and at worst, an entirely unreliable, inadequate and therefore inappropriate and unnecessary set of land use restrictions, and a gross misuse of the authority granted to the Imperial County Airport Land Use Commission by the State of California.

It is therefore the position of the City that the revised General Plan provides adequate protection for the public health, safety and welfare of the citizens of Imperial, while at the same time providing protection for the future aircraft operations at the airport.

The City's General Plan Land Use Element and Safety Element recognizes the height limits as contained in FAA Part 77 and ensures full compliance with these provisions. In addition, regarding noise impacts, the General Plan restricts residences and other

sensitive uses to those areas with less than 65 dba noise levels.

It is the position of the City of Imperial that the City's revised General Plan, as proposed, will have no significant impacts on the Imperial County Airport or on aircraft operations at the airport. The City's General Plan Land Use and Safety Elements take into consideration the runway approach surfaces/zones and runway protection zones (clear zones) for all runways, and incompatible land uses are restricted in these areas. For example, new residential development is restricted to a maximum of 1.0 dwelling unit per acre in the approach zone of runway 14 and new residential dwellings are prohibited within the runway protection zones or within the approach zones at a distance closer than one-half mile from the ends of the runways.

Regarding land use compatibility adjacent to runway 8/26, the City's General Plan designates most of the land adjacent to this runway as industrial which is a compatible use with the airport operations.

## DEPARTMENT OF FISH AND GAME

330 GOLDEN SHORE, SUITE 50  
LONG BEACH, CA 90802EXHIBIT 7

(310) 590-5113

October 29, 1992

Mr. Mike Gaston  
City of Imperial  
420 South Imperial Avenue  
Imperial, California 92251

Dear Mr. Gaston:

A Department of Fish and Game (Department) biologist familiar with the project area has reviewed the Draft Environmental Impact Report (EIR) for the City of Imperial General Plan Revision Project, Imperial County, (SCH 92071056). Our comments on this project are the following:

The project as described would impact a total of 10,048.4 acres, 66% urban, 28% agricultural, and 6% public use. Sensitive species impacted include burrowing owls (Athene cunicularia), a California Species of Special Concern, and greater sandhill cranes (Grus canadensis tabida), a State-listed threatened and fully protected species. Sensitive habitat impacted includes wetland/riparian type vegetation bordering canals and drains.

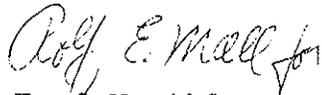
The document seems adequate in representation of impacts. However, sandhill cranes are of greater concern than may be inferred from the document because conversion of agricultural lands to urban uses in the northeast portion of the proposed sphere of influence will have adverse impacts on crane foraging and loafing habitat. We recommend that land use along Harris and Dogwood roads in the northeast quadrant of the proposed sphere of influence remain agricultural or kept in permanent open space to protect this species.

In conclusion, the Department recommends adoption of the Modified General Plan Alternative for maximal protection of wildlife species and habitat, since the "No Project" alternative may not be feasible.

Mr. Mike Gaston  
October 26, 1992  
Page Two

Please contact Mr. Rocky Thompson, Wildlife Biologist, (619) 359-0524, for any questions or concerns you may have regarding the above comments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Fred E. Worthley".

Fred Worthley  
Regional Manager  
Region 5

cc: Kim Nicol  
John Massie  
Rocky Thompson

## EXHIBIT 8

Response to letter from State Department of Fish and Game. (Fred Worthley - Regional Manager).

Regarding the issue of which land uses are planned for the northeast section of the Sphere of Influence Planning Area, the area is projected to remain in agriculture, and is not proposed to be converted to urban uses. Figure LU-1, as contained in the General Plan Land Use Element, designates all the land between Ralph Road and Harris Road as agriculture. Therefore, the concern over removal of Sandhill Crane foraging and loafing habitat in the area is not relevant since the land will remain agriculture.

# Memorandum

To : Tom Loftos  
OPR, SCH  
1400 10th Street  
Sacramento, CA 95814

Date :October 27, 1992

Place :Sacramento

Phone:(916) 654-0897

From : **Department of Food and Agriculture** - Ray Borton, Sr. Agricultural Economist  
Agricultural Statistics Branch

Subject: General Plan Revision SCH# 92071056

The Department of Food and Agriculture appreciates the opportunity to comment on plans that involve conversion of agricultural lands to urban use. This document anticipates the loss of 2,640 acres of Imperial Valley farmland by the year 2015.

Although the plan tries to ensure against leapfrog development through several repeated policy statements against sprawl and non-contiguous development, there is little attention given to the impact of agricultural land loss and mitigation possibilities.

We strongly recommend that this plan require consideration of the economic impact on the community of loss of agricultural production, the establishment of a right-to-farm ordinance and mitigation through purchase of development rights.

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OCT 28 1992  
AGRICULTURE



## EXHIBIT 10

Response to letter from the State Department of Food and Agriculture. (Ray Borton - Senior Agricultural Economist).

Regarding the impacts of agricultural land conversion, the EIR, on page 18, states that these impacts are significant. In addition, 21 various types of mitigation measures are outlined on pages 19-21. Imperial County, in September 1990, passed a right-to-farm ordinance, and this ordinance further discourages the conversion of agricultural land. Regarding the issue of the economic impacts from loss of agricultural land, these impacts are not impacts to the physical environment and therefore are not addressed in the EIR.

EXHIBIT 11

State of California

THE RESOURCES AGENCY OF CALIFORNIA

M E M O R A N D U M

To: Mr. Douglas P. Wheeler  
Secretary for Resources

Date: October 20, 1992

Mr. Mike Gaston  
City of Imperial  
420 South Imperial Avenue  
Imperial, CA 92251

From: **Department of Conservation  
Governmental and Environmental Relations**

Subject: Draft Environmental Impact Report (DEIR) for  
General Plan Revision Project. **SCH #92071056**

RECEIVED  
OCT 28 1992  
STATE  
CLEARINGHOUSE

The Department of Conservation has reviewed the above DEIR and has the following comments.

The DEIR provides a good discussion of the agricultural character and impacts of General Plan implementation on agriculture. The DEIR also notes the significant conversion of 2,640 acres from agricultural uses to urban uses by 2015. The numerous mitigations, which are to be included in the General Plan to address the agricultural land loss, are comprehensive and complete. However, the Department was not able to verify that these mitigation measures are included in the actual General Plan Revision document.

The Department recommends that the FEIR also provide the number of acres of Prime Farmland to be lost as a result of implementation of the revised General Plan. This figure could be incorporated in the discussion on Agricultural Resources, Quality of Farmland (Page 17). In addition, the acreage figure in the section on "Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity" should be modified to reflect the 2,640 acre figure as used in other portions of the document.

The Department appreciates the opportunity to comment on the DEIR. We hope that the above issues are given consideration in the FEIR. If I can be of further assistance, please feel free to call me at (916) 445-8733.

  
Deborah L. Herrmann  
Environmental Program Coordinator

cc: Ken Trott, Office of Land Conservation  
Imperial Irrigation District

## EXHIBIT 12

Response to letter from the State Department of Conservation. (Deborah L. Herrmann - Environmental Program Coordinator).

Regarding the issue of whether the mitigation measures for loss of agricultural land as outlined in the draft EIR, will be included in the General Plan, the City is obligated to include these mitigation measures in the General Plan, and they will be included in the General Plan.

Page 17 of the final EIR has been revised to include the number of acres of prime farmland that would be lost to urban development.

Page 61 of the final EIR, under the section entitled "Relationships Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long Term Productivity" has been corrected to include the 2,640 acre loss of farmland figure.



# IMPERIAL IRRIGATION DISTRICT

OPERATING HEADQUARTERS • P. O. BOX 937 • IMPERIAL, CALIFORNIA 92251

## EXHIBIT 13

AGM

October 1, 1992

Mr. Michael S. Gaston, AICP  
The Holt Group, Inc.  
4784 Highway 111  
Brawley, CA 92227

Dear Mr. Gaston:

Subject: Draft EIR, General Plan Revision

This is in response to correspondence received from the City of Imperial dated September 10, 1992 requesting review of the subject document. District facilities within the General Plan area include laterals and drains associated with the Dandelion, Newside, Dahlia and Date Canals; the District headquarters complex; an electrical substation; and electrical distribution facilities.

Because of the inter-relationships of the District facilities with the General Plan area, reference should be made in the document that the District is a responsible agency as defined under 14 CCR Section 15381. Furthermore, the District possesses jurisdiction by law under 14 CCR Section 15366 (a) (3) which entitles it to exercise authority over resources which may be affected by the project.

### POWER

We have only one comment regarding power. The last sentence beginning on page 38 and the first complete sentence on page 39 should be replaced to read, "The Imperial Irrigation District produces electric power through dual fuel steam generation (14%), 12% through hydroelectric means using the drops on the AAC and slightly less than 1% with gas turbine plants. The bulk of IID resources are purchased from out of state utilities."

### WATER

Consideration should be given to adding reference in the General Plan and the subject document recognizing the potential for the District to provide wholesale water and wastewater treatment services. Any District services would only be in response to agreements with the City and would include the required environmental documentation.

October 1, 1992

Reference should also be made to District concern regarding adequate facilities for storm water runoff. As urban areas expand, the resulting impacts on the District agricultural drainage system will need to be accommodated.

where  
can this  
be done

Reference is made in the introduction on page 1 to the anticipated conversion of agricultural land to urban uses. This reduction in agricultural area served by the District canal and drainage system places a burden on the remaining agricultural water users unless methods are instituted for the urban areas to compensate for the potential loss of revenues.

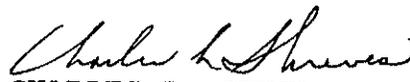
where  
can this  
be done

Several comments are also provided in regards to the text of the document:

1. Reference is made on page 11 to fish being stocked in canals. The only stocking which currently takes place in IID canals is triploid grass carp (not a sports fish). Sperber and Oscar Fudge reservoirs do provide sport fishing opportunities.
2. Impacts on burrowing owls (page 13) may be significant if open drains are modified. Burrowing owls primarily inhabit drain banks and agricultural field borders rather than canal banks.
3. On page 17, the draft is correct in stating that irrigation canal habitat is exempt from the Corp of Engineers permitting requirements including drainage maintenance; however, drainage construction is not exempt. Reference to the Department of Fish and Game should be deleted because it is our understanding that Department has not yet used section 1601 to address impacts on fish habitat due to modifications of canals and drains.
4. Reference is made on page 32 to water service in the General Plan area by the City. Service by the City of unincorporated areas, such as Ironwood Acres subdivision, would reduce pipe service provided by the District.
5. On page 57, reference is made to fencing or undergrounding canals or drains. This needs to be expanded to indicate that the District prefers undergrounding of canals; however, cost of construction beyond benefits to the District would need to be paid by others.

Thank you for the opportunity to comment. Please contact Water Manager Jesse Silva at (619) 339-9263 on these water matters and Power Manager Henry Legaspi at (619) 339-9225 on these power matters.

Sincerely,

  
CHARLES L. SHREVES  
General Manager

## EXHIBIT 14

Response to the letter from the Imperial Irrigation District. (Charles L. Shreves, General Manager).

1.     Comment     Power - Page 38, Last Sentence, and Page 39, First Complete Sentence - Production of Electric Power

Response     The last sentence on page 38 and the first complete sentence on page 39 was replaced to read, "The Imperial Irrigation District produces electric power through dual fuel steam generation (14%), through hydroelectric means using the drops on the All American Canal (12%), and with gas turbine plants (slightly less than 1%). The bulk of the Imperial Irrigation District resources are purchased from out of state utilities."

2.     Comment     Water - The District's Potential Services

Response     A reference recognizing the potential for the District to provide wholesale water and wastewater treatment services was added on Page 11 of the document. Further, a statement was added to indicate that any District services would only be in response to agreements with the City and would include the required environmental documentation.

3.     Comment     Water - Storm Water Runoff

Response     Page 55 of the final EIR has been revised to add a statement regarding District concern over the impact to the agricultural drainage system from stormwater runoff caused by new urban development uses.

4.     Comment     Water - Anticipated Conversion of Agricultural Land to Urban Uses - Potential Loss of Revenue.

Response     The potential loss of revenue to the District from conversion of farmland is an economic impact, and is not an impact on the physical environment, therefore it is not addressed in the final EIR.

5.     Comment     Water - Page 11 - Stocked Fish in Canals

Response     The statement "the fish are stocked in canals and provide sport fishing activities" was revised to properly state that the only stocking which currently takes place in Imperial Irrigation District canals is Triploid Grass Carp, which is not a sport fish. In addition, a statement that Sperber and Oscar Fudge Reservoirs do provide sport fishing

opportunities was added.

6. Comment Water - Page 13 - Burrowing Owls

Response The draft EIR indicated that the Burrowing Owls may occupy any portion of the canal banks and that the owls rest, roost, and nest throughout the year in burrows built in the canal banks. The terminology was incorrect. The final EIR was corrected to state that the Burrowing Owls may occupy any portion of the open drains in those areas proposed to be converted to urban uses. In addition, the second statement was corrected to state that the Burrowing Owls primarily inhabit drain banks and agricultural field borders rather than canal banks.

7. Comment Water - Page 17 - Reference to the Department of Fish and Game

Response The reference to the Department of Fish and Game was deleted because it is the District's understanding that the Department of Fish and Game has not yet used section 1601 to address impacts on fish habitat due to modifications of canals and drains.

8. Comment Water - Page 32 - Water Service

Response A sentence was added to state "Service by the City of unincorporated areas, such as Ironwood Acres subdivision, would reduce pipe service provided by the District."

9. Comment Water - Page 57 - Undergrounding Canals or Drains

Response A reference was added to indicate that the Imperial Irrigation District prefers undergrounding of canals; however, cost of construction beyond benefits to the District would need to be paid by others.



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
 Salton Sea National Wildlife Refuge  
 P.O. Box 120  
 Calipatria, CA 92233-0120

October 19, 1992

Mr. Mike Gaston, AICP  
 The Holt Group  
 4784 Highway 111  
 Brawley, CA 92227

Subject: City of Imperial General Plan Revision Project DEIR

Dear Mr. Gaston,

Enclosed are comments on the Draft Environmental Impact Report for the City of Imperial General Plan Revision Project.

Page 10, Paragraph 2, 3rd Sentence: Although it is true that no native wildlife habitat exists within the study area, natural wildlife habitat does exist throughout the area, and in some cases even supports native plant species such as quailbush (Atriplex sp.). In addition, important wildlife habitat exists throughout the area in the form of intensively farmed and fallow agricultural fields.

Page 10, Paragraph 2, 6th Sentence: Waterfowl is a term used for ducks and geese. The species you name are more appropriately termed "waterbirds."

Page 10, Paragraph 2, 7th Sentence: This sentence states that these bird species are "visitors from nearby flyway corridors," when in actuality the Imperial Valley is in the Pacific Flyway. These species use the area on more than a "casual" basis, and are actually quite common in the area.

Page 12: Other California species of special concern which were observed on the area on 4 October include white-faced ibis, Northern harrier, and long-billed curlew, in addition to the species mentioned in the DEIR. Mountain plovers may also occur on the area during winter months, with this species currently undergoing consideration for listing under the Endangered Species Act.

Of major concern with the DEIR is the incorrect information and lack of mitigation factors included for the sandhill crane. Sandhill cranes are listed by the State of California as a threatened species (not a species of special concern), and as such are protected under the California Endangered Species Act. The winter roost site located just north of Harris Road and Dogwood is mentioned in the Pacific Flyway Management Plan (plan) for the Lower Colorado River Valley Population of Greater Sandhill Cranes (1983). In this plan's goals and objectives, a dispersal of 100 wintering cranes by the year 2000 is desired for the Imperial Valley outside of Salton Sea National Wildlife Refuge. This plan's objectives are also to retain and protect habitats to meet population and distribution objectives. Problems with achieving these objectives include the lack of roost site refugia, available

food, or both for cranes in the Imperial Valley. Further winter roost site degradation by implementation of the DEIR General Plan Revision for the City of Imperial will place this species as it occurs in the Imperial Valley under jeopardy.

Currently, Salton Sea National Wildlife Refuge receives approximately 30,000 visitors per year, of which approximately 80% are here to "birdwatch." A large majority of the winter birdwatchers come to see the sandhill cranes at this roost site. The monetary value of these birdwatchers to the local economy in the form of purchases of fuel, food, motels, etc. is unknown, but may be substantial.

There is no known mitigation for the loss of this crane winter roost site. Optimally, the city limits of Imperial should not include those areas just south of Harris Road, which should remain in agriculture in order to provide a buffer zone to the sandhill crane roost site. The recovery plan for this population of sandhill cranes specifies that attempts should be made to acquire through fee acquisition or easement these important roost areas in private ownership and that they should be managed for sandhill cranes.

Page 61, Paragraph 1: This sentence states, and is agreed with, that the project may "remove some potential loafing habitat for the greater sandhill crane." As discussed previously, this is of major concern with this general plan revision.

Table 1: The following birds were observed on the area on 4 October and should be included in the species list:

white-faced ibis (Ca. species of special concern)  
long-billed curlew  
Northern harrier (Ca. species of special concern)  
American kestrel  
ring-billed gull  
great egret  
barn swallow  
killdeer  
Western kingbird  
house sparrow  
great-tailed grackle

Enclosed is a checklist for Salton Sea National Wildlife Refuge which also includes several other bird species which are found in the Imperial Valley and would be expected to occur within the City of Imperial General Plan Revision area. These should be included in Table 1 of the DEIR.

Please contact me at (619) 348-5278 if you require further information.

Sincerely,



Marcia F. Radke  
Wildlife Biologist

cc: City of Imperial  
Brian Mooney and Assoc.

## EXHIBIT 16

Response to letter from the United States Department of the Interior, Fish and Wildlife Service, Salton Sea National Wildlife Refuge. (Marcia F. Radke, Wildlife Biologist).

1.     Comment     Page 10, Paragraph 2, 3rd Sentence - Existence of Natural Wildlife Habitat

Response     The Wildlife section has been rewritten to include the statements made in the letter regarding the fact that natural wildlife habitat does exist within the study area, although no native wildlife habitat exists.

2.     Comment     Page 10, Paragraph 2, 6th Sentence - Appropriate Terminology for Waterfowl

Response     The terminology for the species mentioned in the Draft EIR has been corrected to the more appropriate term "waterbirds," as opposed to the term "waterfowl."

3.     Comment     Page 10, Paragraph 2, 7th Sentence

Response     The sentence stating that these bird species are "visitors from nearby flyway corridors" has been corrected to state specifically that the Imperial Valley is in the Pacific Flyway. Further, it was added that the species use the area on more than a "casual" basis, and are actually quite common in the area.

4.     Comment     Page 12 - Other California Species of Special Concern

Response     The species, including white-faced ibis, Northern harrier, and long-billed curlew, were added to the final EIR as other California species of special concern. Also, a statement was added to include that mountain plovers may also occur in the area during winter months and that this species is currently undergoing consideration for listing under the Endangered Species Act.

5.     Comment     Page 12 - Sandhill Crane

Response     The statement that sandhill cranes are a species of special concern was corrected. The final EIR was corrected to indicate that sandhill cranes are listed by the State of California as a threatened species and as such are protected under the California Endangered Species Act.

6. Comment Page 12 - Mitigation Factors for the Sandhill Crane

Response The letter addressed a major concern with the lack of mitigation factors included for the sandhill crane in the Draft EIR. Further, the letter stated that the winter roost site degradation by implementation of the draft EIR General Plan Revision for the City of Imperial will place this species as it occurs in the Imperial Valley under jeopardy. It was noted that the winter roost site located north of Harris Road and east of Dogwood Road is mentioned in the Pacific Flyway Management Plan for the Lower Colorado River Valley Population of Greater Sandhill Cranes (1983).

The response to the Fish and Wildlife Service's concern is that there is no known mitigation for the loss of the crane's winter roost site. The City of Imperial does not include those areas just south of Harris Road within the projected city limits. The General Plan Land Use and Circulation Map (July 1992) indicates that the land between Ralph Road and Harris Road is designated to remain as agricultural land throughout the planning period, which extends through the year 2015. The City has no intentions of annexing this agricultural land into the City. Also, this land, as specified, is already privately owned for the purposes of agriculture. Therefore, the land will remain agricultural land in order to provide a buffer zone to the sandhill crane roost site.

7. Comment Page 61, Paragraph 1 - Removal of Some Potential Loafing Habitat

Response The sentence that states that the project may "remove some potential loafing habitat for the greater sandhill crane" is an accurate statement. As stated in the Draft EIR, the implementation of the revised General Plan will result in the elimination of approximately 2,640 acres of agricultural land. The loss of this agricultural land is unavoidable if the City is to grow. Although, as stated previously, the converted agricultural land does not include the area between Harris Road and Ralph Road, which is designated to remain agricultural land through the year 2015. Therefore, the effect on the potential loafing habitat for the Greater Sandhill Crane will be minimized as much as possible with this plan.

8. Comment Table 1 - Partial Listing of Plants and Wildlife

Response Table I - Partial Listing of Plants and Wildlife -was amended to include the following birds:

- \* White-faced Ibis
- \* Long-billed Curlew
- \* Northern Harrier
- \* American Kestrel
- \* Ring-billed Gull
- \* Great Egret
- \* Barn Swallow
- \* Killder
- \* Western Kingbird
- \* House Sparrow
- \* Great-tailed Grackle

#### D. MISCELLANEOUS INFORMATION

## INFORMATION SOURCES

1. Environmental Impact Report for California State Prison (Imperial County - South). Prepared by ERCE and JayKim Engineers for the State of California Department of Corrections. February 1990.
2. Environmental Impact Report for Brawley 10 Megawatt Geotechnical Test Facility. Prepared by Westec Services for the County of Imperial. January 1979.
3. Climatic Data - Imperial Irrigation District
4. Census Data - State Department of Finance
5. Archaeological Resources - Imperial Valley College Museum, Mr. Jay Von Werlhof, Archeologist
6. Economic and Fiscal Data - report prepared by Engineering - Economics Associates, Inc. for the State of California Department of Corrections. November 1988.
7. Civil Engineering Reference Manual, Fourth Edition  
Author: Michael R. Lindeburg, P.E., 1986
8. Master Sewer Plan  
Prepared by The Holt Group, Inc. December 1990.

## AGENCIES AND PERSONS CONSULTED/CONTACTED

1. Imperial County Planning Department  
Jurg Heuberger - Planning Director
2. Imperial County Public Works Department  
John Arams - Assistant County Engineer
3. Imperial County Environmental Health Department
4. Imperial Irrigation District
5. City of Imperial Planning Department  
Bayani I. Mauricio - Director of Planning
6. City of Imperial Public Works/Engineering Department  
Joel Hamby - Assistant Engineer
7. City of Imperial Administration  
Paul J. Richards - City Manager
8. Southern California Gas Company
9. Pacific Bell Telephone Company
10. Imperial County Sanitation Company  
John Lau - Controller
11. Imperial Unified School District  
Frank Cranley - Superintendent
12. California Department of Corrections
13. California Department of Transportation
14. California Department of Fish and Game
15. California Department of Conservation
16. Imperial Valley College Museum  
Jay Von Werlhof
17. Imperial County Department of Emergency Services  
Lon Hettinger - Captain

## LIST OF PREPARERS

Original drafts of this EIR were prepared by the staff of The Holt Group, Inc. The Holt Group Project Manager was Michael S. Gaston. The Holt Group staff participating in this work include the following:

Michael S. Gaston, A.I.C.P.  
Senior Environmental Planner/Project Manager  
B.A. in Urban and Regional Planning

Kenneth G. Skillman III, P.E.  
Technical Analyst/Assistant Project Manager  
B.S. in Civil Engineering

James G. Holt, P.E.  
Technical Analyst/Reviewer  
B.S. in Civil Engineering

Laurie B. Everhart, C.P.A.  
Technical Editing/Reviewer  
B.S. in Accounting

Nancy J. Holt  
Wordprocessor  
B.A. in Literature