City of Calexico

Draft Conservation/Open Space Element

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5.1 INTRODUCTION

California law requires the inclusion of a Conservation Element and an Open Space Element in a City's General Plan. The City has elected to combine these two elements.

Government Code Section 65302 requires the Conservation Element to address the conservation, development, and utilization of natural resources. These resources include, to the extent they are relevant to any given city, the following:

- Water and Water Quality
- Soils
- Rivers and other waters
- Wildlife
- Minerals
- Other natural resources
- *Forests*
- *Harbors*
- *Fisheries*

The italicized resources are not relevant to Calexico.

Open space includes:

- Open space for the preservation of natural resources
- Open space for the managed production of resources
- Open space for outdoor recreation
- Open space for public health and safety

Government Code 65563 states that the Open Space element is the plan for "the comprehensive and long-range preservation and conservation of open-space land".

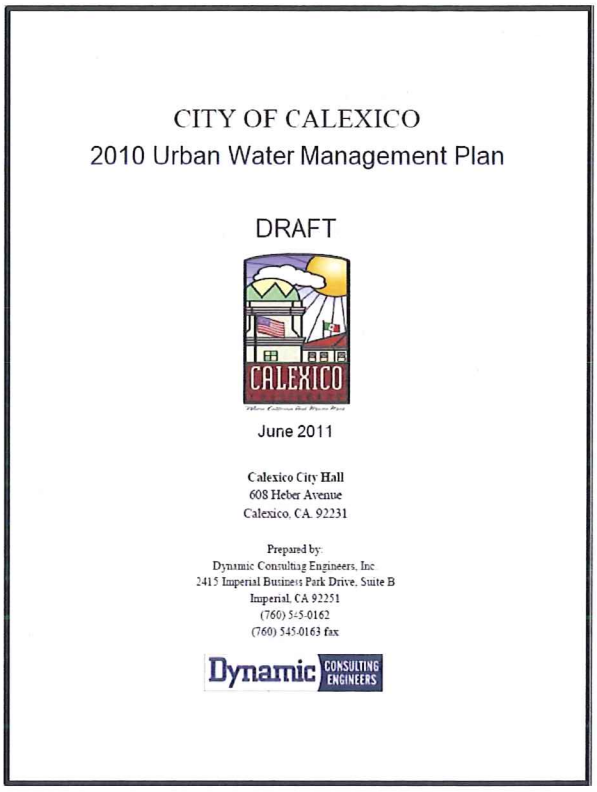
The conservation of natural resources and the preservation and management of open space will allow for the balanced growth and development of the City while protecting the fundamental resources that represent the essence of the City and also enhance the quality of life for its residents. The Conservation/Open Space Element is responsive to community needs as follows:

- Protects resources for future generations
- Conserves the area's natural resources
- Allows the City to retain its character and heritage
- Enhances the overall quality of the City and therefore increases the City's desirability as a place to invest, possibly strengthening the local economy
- Ensures that development is conducted in an orderly manner that recognizes the intrinsic value of natural resources and open spaces
- Preserved open spaces become a source of community pride
- Contributes to the overall balance of land uses within the community
- Demonstrates the City's commitment towards preserving its resources

5.2 CONSERVATION RESOURCE ASSESSMENT

5.2.1 Water Supply and Quality

The City of Calexico, according to the *2010 Urban Water Management Plan*, receives raw water from the Imperial Irrigation District (IID). Approximately three percent of the Imperial Irrigation District's untreated water is ultimately used for urban purposes and is provided indirectly to consumers through a variety of public and private treatment agencies.


CITY OF CALEXICO
2010 Urban Water Management Plan

DRAFT

CALEXICO

June 2011

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Calexico, CA 92231

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The Imperial Irrigation District's total service area, lying entirely within Imperial Valley, is divided into four units: Imperial, West Mesa, East Mesa, and Pilot Knob, with a gross acreage of 1,061,637 acres.

The City of Calexico's Sphere of Influence is located within the Imperial Unit of the IID service area. The 699,092 acre Imperial Unit serves the Imperial Valley including the urban areas of the cities of Brawley, Calexico, El Centro and Imperial and approximately a quarter of Imperial County's unincorporated area. In total, IID delivers water to an area of just over 520,000 acres, including cities, cemeteries, schools, parks, golf courses, etc. in addition to the irrigated land.

Approximately 97% of the water demand in the Imperial Region is for irrigation. Agriculture is successful in this region for two reasons: 1) rich soils which have accumulated on the valley floor over thousands of years; and 2) the large quantity of water that is transported 80 miles from the Colorado River via the All- American Canal and distributed to farmlands by a complex system of smaller canals.

Water conservation is one of several priorities supported by the City and conservation programs such as school education, public information, and landscape design and water use standards are being implemented.

The City provides potable water to homes and businesses by treating Colorado River water imported by IID. The imported water is a surface water source. Its treatment must comply with the Surface Water Rule of the Federal and State Safe Drinking Water Act. The California Department of Public Health (CDPH) granted a permit to the City to supply water for domestic purposes to Calexico. The treatment facility currently meets all applicable United States Environmental Protection Agency domestic water quality standards.

The City of Calexico takes its water from the All American Canal. Water is pumped from the canal to a 25 MG raw water pond using three 2500 gpm pumps. Water from the pond is pumped

to the treatment plant by three 2100 gpm high/low speed pumps to the treatment plant's flow splitter box. The treatment plant is designed to treat 14 MGD and currently uses 9.0 MGD on a maximum day.

The City samples daily for raw water turbidity and weekly for total and fecal coliforms. The raw water in the raw water ponds ranges from 0.2 to 15.2 NTU (nephelometric turbidity units). At certain times of the year, total and fecal coliforms are highly variable and above the minimum treatment threshold. Total trihalomethanes (TTHM) ranged from 54 ppb to 73 ppb. The City does not exceed the MCL (maximum contaminant levels) of 80 ppb, probably because chloramines are used for disinfection instead of free chlorine.

Despite extensive efforts in the U.S. and Mexico, water quality in the New River remains out of compliance with many U.S. water quality standards. Water pollution levels pose health and quality of life concerns in Calexico and the Imperial Valley, as well as being sources of pollution to the Salton Sea. Based on the most recent data available, the water quality impairments of the New River in the U.S. include: low dissolved oxygen, toxicity, pathogens, trash, selenium, sediment/silt, chlordane, DDT, dieldrin, toxaphene, PCBs, HCB, nutrients, mercury, chlorpyrifos, diazinon, copper and zinc7.

5.2.2 Soils

Texture refers to the size of the particles that make up the soil. The terms *sand*, *silt*, and *clay* refer to relative sizes of the soil particles. Sand, being the larger size of particles, feels gritty. Silt, being moderate in size, has a smooth or floury texture. Clay, being the smaller size of particles, feels sticky.

The ***Soil Texture Triangle*** gives names associated with various combinations of sand, silt and clay. A *coarse-textured* or *sandy* soil is one comprised primarily of medium to coarse size sand particles. A *fine-textured* or *clayey* soil is one dominated by tiny clay particles. Due to the strong physical properties of clay, a soil with only 20% clay particles behaves as sticky, gummy clayey soil. The term *loam* refers to a soil with a combination of sand, silt, and clay sized particles. For example, a soil with 30% clay, 50% sand, and 20% silt is called a *sandy clay loam*. [Figure C-OS 1]

Soils which are located in and around the City of Calexico range from very fine sands to silty clays. These soils are deep and enriched in calcium, were typically formed from deep lakebed sediments, and range from moderately well-drained to well-drained. A perched water table is common due to long-term agricultural irrigation. Some soils in the area have high shrink-swell potential, low strength, and are excessively wet; consequently, these soils have construction limitations. Some soils contain high percentages of fine sands and silts. These loose, unconsolidated sediments along with water close to the surface create the potential for liquefaction during earthquakes.

Most irrigated agriculture occurs on soils that occupied the ancient lakebed floor between the Mexican border and the Salton Sea, and the adjacent East and West Mesas. The soils associated with the lakebed are nearly level and fine-textured, ranging from loams to clays.

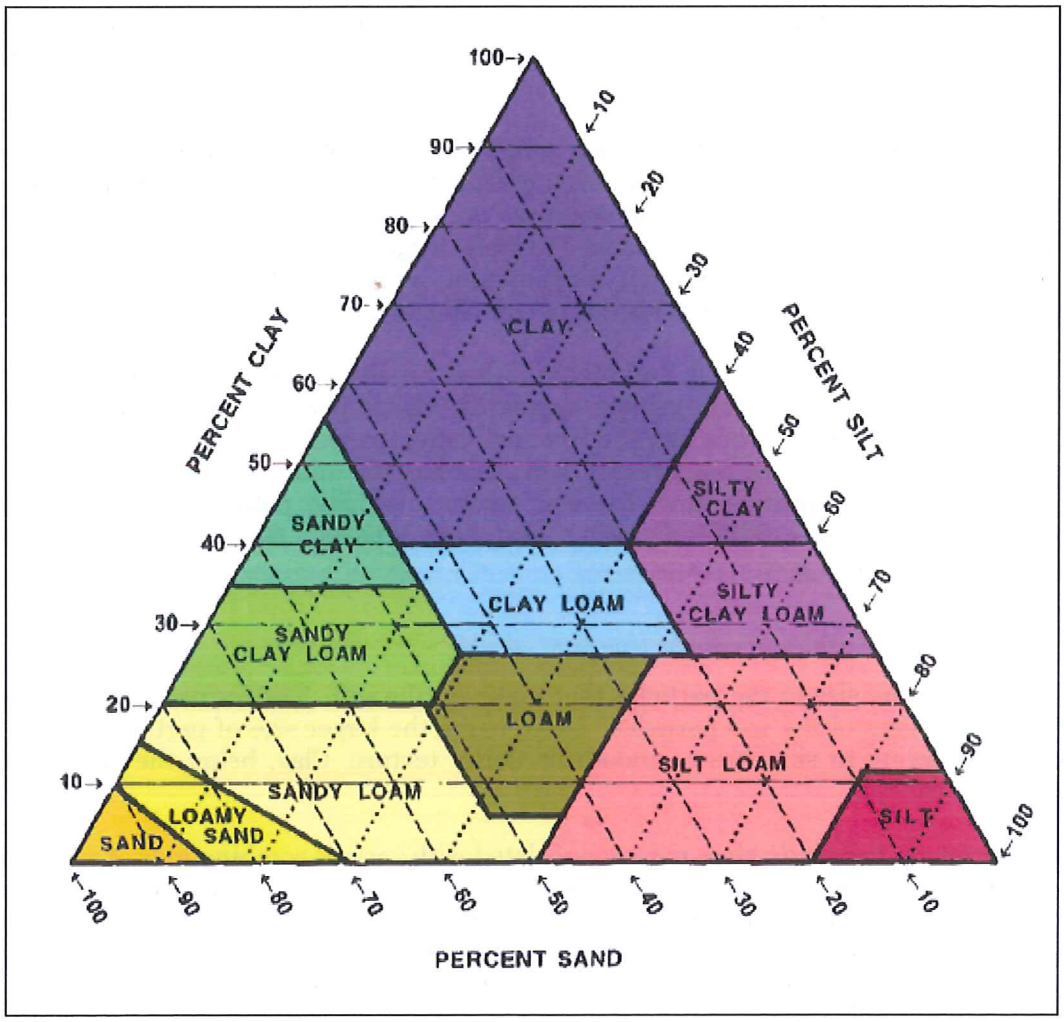
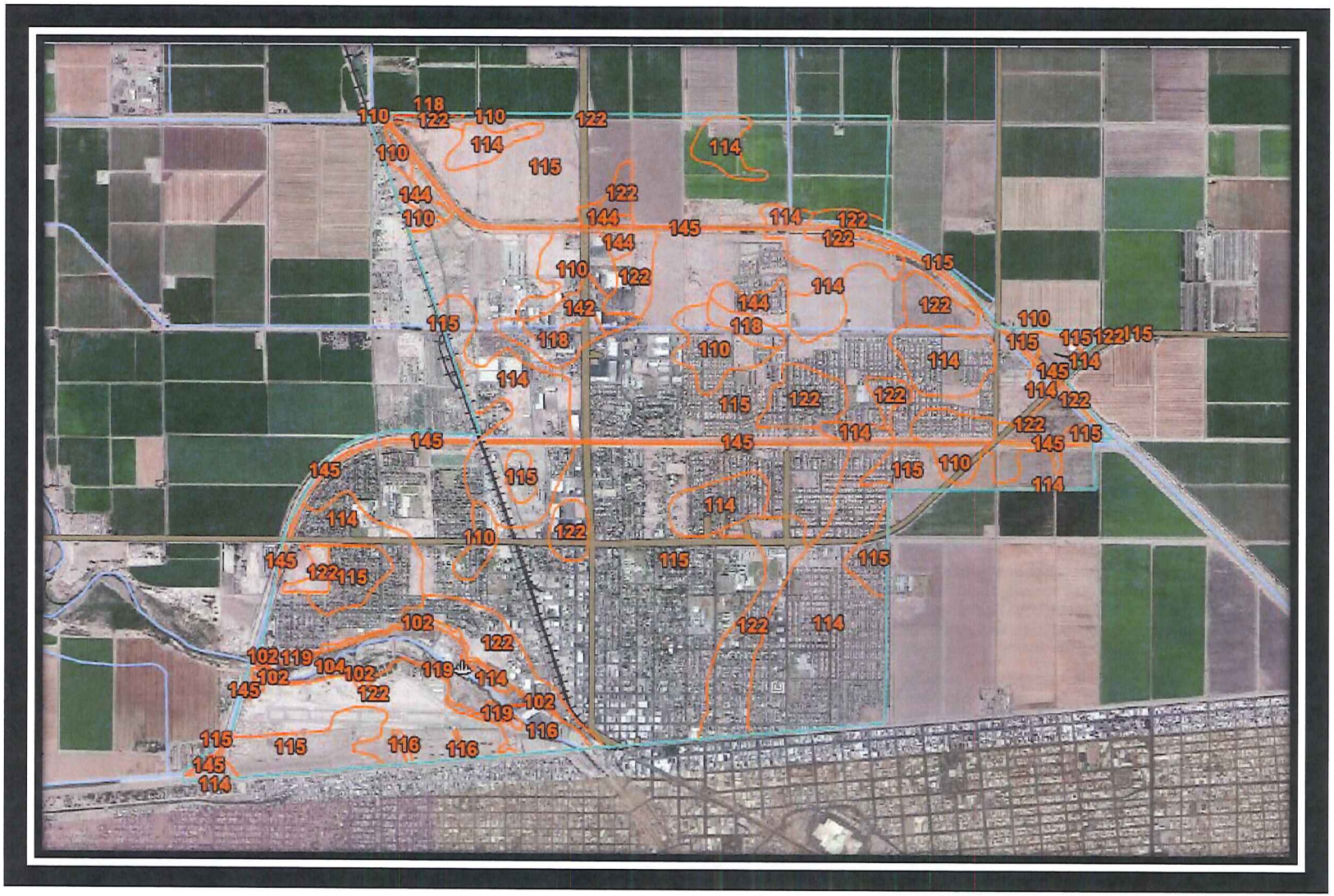


Figure C-OS 1
Soil Texture Triangle

Exhibit C-OS 1 shows the soil map for Calexico, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Table C-OS 1 lists the individual soils, acreage per soil, and each soil's percentage of total acres.

Exhibit C-OS 1
Soils Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 7, Sep 9, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 29, 2011—Jul 27, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table C-OS 1
Map Unit Legend
City of Calexico, California (CA683)

City of Calexico, California (CA683)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
102	Badland	21.7	0.40%
104	Fluvaquents, saline	125	2.20%
110	Holtville silty clay, wet	241.7	4.30%
114	Imperial silty clay, wet	1,163.50	20.50%
115	Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes	3,005.80	53.00%
116	Imperial-Glenbar silty clay loams, 2 to 5 percent slopes	53.1	0.90%
118	Indio loam, wet	66	1.20%
119	Indio-Vint complex	15.7	0.30%
122	Meloland very fine sandy loam, wet	779	13.70%
142	Vint loamy very fine sand, wet	41.6	0.70%
144	Vint and Indio very fine sandy loams, wet	73	1.30%
145	Water	85.5	1.50%
Totals for Area of Interest		5,671.70	100.00%

Source: United States Department of Agriculture, Natural Resources Conservation Services, Custom Soils Report for Calexico, CA, 29 pages, August 6, 2015

5.2.3 New River

The New River is a sub-watershed of the larger Salton Sea Watershed. The New River starts in Mexicali, Mexico, approximately 15 miles south of the International Border and flows north into the U.S. through Calexico, passes through the Imperial Valley and drains into the Salton Sea, some 66 miles north of the International Boundary. The sub-watershed covers approximately 750 square miles, with 63% of that in Mexico and 37% in the U.S.

The "New" River was formed by occasional flows from the Colorado River flowing into the Salton Sink. These flows created a basic shallow desert wash that would have been typical of other desert washes in the region. When the entire flow of the Colorado River went into the Salton Sea (1905-1907), its water poured into the Sea with such force that it eroded the New River channel to form the deep river canyon that it is today. Runoff from all of the washes in the Basin drained to the Salton Sink, pooled there and infiltrated into the ground or evaporated over time.

The New River would have reverted to being a dry desert wash too, but agriculture in the Imperial and Mexicali Valleys continued and expanded after the flood and agricultural runoff became the river's main source of "water." The New River channel that was created is approximately 60 miles in length and up to two-thirds of a mile in width within the United States. Within Mexico this natural channel way is discernible for about 13 miles.

The United States communities around the New River are connected by Highways 86 and 111 and include Calexico, El Centro, Seeley, Heber, Westmorland, Imperial and Brawley. The City of

Calexico, the unincorporated community of Seeley, the El Centro Navy Air Station and the City of Brawley are the closest to the New River.

Conservation efforts have been proposed as part of the New River Parkway Development Program; for example, improving New River habitat efforts, such as native vegetation and restored or artificial wetlands, developed in cooperation with fish and wildlife agencies, to mitigate adverse impacts of constructing improvements.

5.2.4 Wildlife

Sonny Bono Salton Sea National Wildlife Refuge is located approximately 42 miles from Calexico and offers environmental education, trails through the refuge, and waterfowl hunting during the appropriate season. Two trails within the refuge weave through upland vegetation, freshwater ponds and agricultural fields. Over 400 species of birds have been reported at the Sonny Bono Salton Sea National Wildlife Refuge, including a variety of waterfowl and shorebirds. In addition, the Refuge provides a home for several endangered species including the Yuma clapper rail and the California brown pelican.

Imperial National Wildlife Refuge is approximately 98 miles from Calexico and protects wildlife habitat along 30 miles of the lower Colorado River in Arizona and California, including the last unchannelized section before the river enters Mexico. The refuge contains more than 15,000 acres of federally designated wilderness and is home to a diversity of wildlife species including desert bighorn sheep, mule deer, ducks, geese, and shorebirds. The refuge offers a variety of recreation activities including hiking, fishing, and hunting.

Plant species of special status include those classified as endangered or threatened, proposed for listing as endangered or threatened, candidates species for listing by a federal (U.S. Fish and Wildlife Service) or state (California Department of Fish and Game) resource agency, or considered federal Species of Concern. In addition, plants included on Lists 1, 2, 3, or 4 of the California Native Plant Society (CNPS) Inventory are also considered special-status. The CNPS is a state-wide non-profit organization of amateur and professional persons with a special interest in the state's native plants. Although CNPS recognizes those plant species that are state and federally-listed by CDFG and USFWS, it also designates additional plants with its own rating system.

Special-status or sensitive wildlife species include those that are state or federally listed as threatened or endangered, are proposed for listing as threatened or endangered, have been designated as state or federal candidates for listing, state or federal species of concern, or California Fully Protected.

The California Natural Diversity Database (CNDDB) is a program within the California Department of Fish and Games Habitat Conservation Division. The CNDDB includes in its inventory all federally and state listed plants and animals, all species of special concern, and

those species that are considered "sensitive" by government agencies and the conservation community.

A search of the database was conducted for the General Plan area and surrounding USGS Quads (Calexico, Heber, Mount Signal, Seeley, El Centro, and Holtville West). Sensitive plants documented within the vicinity include Abrams's spurge, chaparral sand-verbena, sand food, rock nettle, brown turbans and hairy stickleaf. Sensitive wildlife species documented within the vicinity include burrowing owl, yellow warbler, ferruginous hawk, Yuma Clapper Rail, Colorado River toad, and flat-tailed homed lizard. These species, their federal and state status, and habitat types are included in Table C-OS 2 on the next page.

To a large extent the Calexico General Plan area has been disturbed by human activity and does not provide habitats that would support sensitive plant and wildlife species. Within the City of Calexico land has been primarily converted to urbanized land use. Lands surrounding the developed area of Calexico have been primarily converted to agricultural uses. Within developed areas of Calexico, the New River and undeveloped land adjacent to the river, as well as the agricultural/irrigation ditches and canals provide some habitat for sensitive species. Lands used for agriculture provide habitat for the burrowing owl and foraging and roosting habitat for migratory birds that winter in the area.

The occurrence potential for most sensitive plant species in the General Plan area is generally considered low due to the high amount of soil disturbance from long-standing agriculture activities, resulting in unsuitable habitat present for these species. The occurrence potential for sensitive wildlife species is generally considered low as well due to the lack of habitat from development and long-standing agricultural activities.

The New River is severely polluted by discharges of wastes from domestic, agricultural and industrial sources in Mexico and the Imperial Valley. New River pollution threatens public health, prevents supporting healthy ecosystems for wildlife and other biological resources in the New River and contributes to the water quality problems of the Salton Sea.

Both the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service have regulations to protect wildlife resources and both have been active in the efforts to clean-up the pollution in the New River.

Table C-OS 2
City of Calexico
Sensitive Species Known to Occur or with the Potential to Occur

Common Name *Scientific Name*	Status[1]	Habitat	Potential Habitat Location in Calexico	Occurrence Potential in General Plan Area
Plants				
Sand Food *Pholisma sonorae*	CNPS 1B	Desert sand dunes	None	Very Low
Chaparral sand-verbena *Ambronia villoso var. aurita*	CNPS 1B	Sandy areas in Chaparral and coastal scrub communities	Undeveloped areas with native desert scrub habitat	Low
Abrams's spurge *Chamaesyce abramsiana*	CNPS 2	Sandy areas in Mojavean and Sonoran desert scrub communities	Undeveloped areas with native desert scrub habitat	Low
Rock nettle *Eucnide rupestris*	CNPS 2	Sonoran Desert scrub	Undeveloped areas with native desert scrub habitat	Low
Hairy stickleaf *Mentzelia hirsutissima*	CNPS 2	Sonoran Desert scrub, in washes, fans and slopes with coarse rubble and talus slopes and rocky sites	Undeveloped areas with native desert scrub habitat	Low
Brown turbans *Malperia tenuis*	CNPS 2	Sonoran Desert scrub in sandy places and rocky slopes	Undeveloped areas with native desert scrub habitat	Low
Birds				
Yellow Warbler *Dendroica petechia brewsteria*	CSC	Nests in riparian habitats, preferring willows, cottonwoods, aspens, sycamores and alders for nesting and foraging	Riparian habitat along New River and in or adjacent to agricultural ditches	Low to Moderate
Burrowing Owl *Athene cunicularia*	CSC	Open, dry annual or perennial grasslands, scrublands, and deserts with low-lying vegetation. Depends on burrowing mammals for burrow sites	Agricultural fields and undeveloped areas	Moderate to High
Ferruginous hawk *Buteo regalis*	FSC, CSC	Winters in open grasslands, sagebrush flats, desert scrub, low foothills and fringes of Pinyon-Juniper forest habitats	Undeveloped areas with native desert scrub habitat	Low

Table C-OS 2 continued
City of Calexico
Sensitive Species Known to Occur or with the Potential to Occur

Common Name *Scientific Name*	Status[1]	Habitat	Potential Habitat Location in Calexico	Occurrence Potential in General Plan Area
Birds Continued				
Yuma Clapper Rail *Rallus longirostris yumanensis*	FE, CT, CFP	Nests in fresh-water marshes along the Colorado River and along south and east ends of Salton Sea. Prefers stands of cattails and tules dissected by narrow channels of flowing water	Riparian/marsh vegetation along New River and potentially in some agricultural ditches	Low
Mountain Plover *Charadrius montanus*	CSC Proposed FT 1999	Wintering – uses nearly barren or very sparse native grassland, alkali playas, burned or heavily grazed sites, and plowed or disced agricultural lands for foraging and roosting	Agricultural fields	Low to Moderate
Reptiles				
Flat-tailed horned lizard *Phrynosoma mcalli*	CSC	Desert washes and desert flats with fine sand and vegetation cover	New River and undeveloped areas with native desert scrub habitat	Low to Moderate
Amphibians				
Colorado River toad *Bufo alvarius*	CSC	Breeds in temporary pools and irrigation ditches along the Colorado River and southern Imperial Valley	New River and agricultural ditches	Low

Key:

CNPS 1B	California Native Plant Society List 1B (rare, threatened, or endangered in California and elsewhere)
CNSP 2	California Native Plant Society List 2 (rare, threatened, or endangered in California but more common elsewhere)
FT, FE	Federally Threatened, Federal Endangered
FSC	Federal Species of Concern (not formally protected under law)
CT, CE	California Threatened, California Endangered
CFP	California Fully Protected
CSC	California Species of Concern (not formally protected under law)

5.2.5 Minerals

Mineral resources found throughout Imperial County include gold, gypsum, sand, gravel, lime, clay, and stone. In addition, industrial materials found throughout the county include kyanite, mineral fillers (clay, limestone, sericite, mica, and tuff), salt, potash, calcium chloride, manganese, and sand. The managed use of the valuable mineral deposits is important for regional economic stability. It is also important to ensure that adequate deposits remain for future generations.

The Surface Mining and Reclamation Act of 1975 (SMARA) mandated the initiation by the State Geologist of mineral land classification in order to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses which would preclude mineral extraction. Through information gathered by the SMARA Land Classification Project, the California Department of Conservation identifies areas of known and likely mineral deposits, and classifies these areas into Mineral Resource Zones (MRZ). As of March 2013, Imperial County is one of 14 California counties within which no SMARA classification has occurred.

In 2000, however, the State Department of Conservation mapped seven principal mineral-producing localities in the County of Imperial that included sand, gravel, gypsum, clay and gold. Two locations, where clay, sand and gravel are mined, are located in proximity to, but not within, Calexico.

5.3 OPEN SPACE ASSESSMENT

5.3.1 Open Space for the Preservation of Natural Resources

Natural resources are discussed in 5.2.4. The Land Use Element Open Space (OS) designation delineates areas that shall remain protected as open space but are not accessible to the public for recreational purposes. The OS designation also includes large ponds or retention areas not open to the public, irrigation and drainage canals, or natural areas that may warrant preservation.

5.3.2 Open Space for the Managed Production of Resources - Agricultural Lands

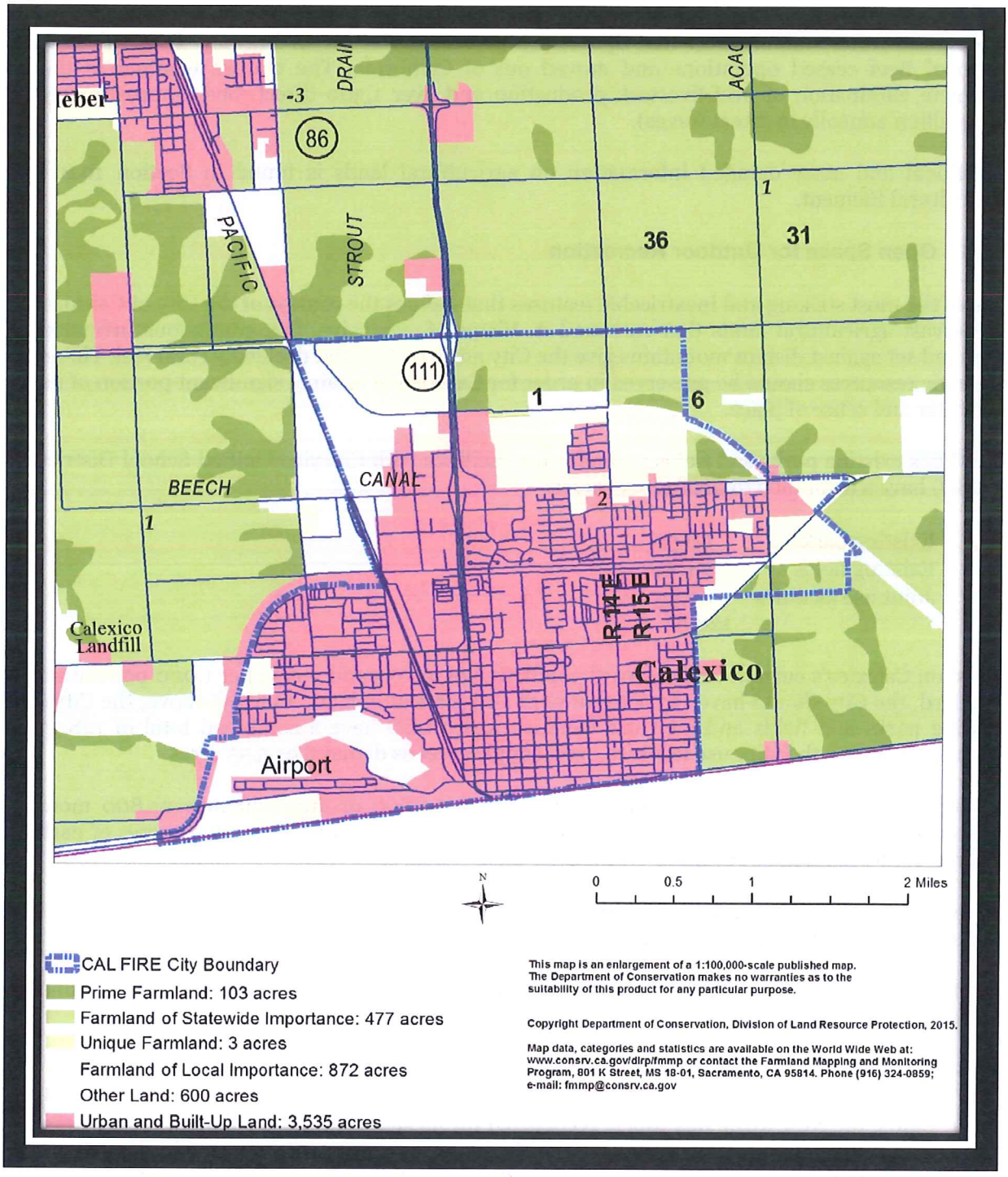
Within the Calexico city limits there are an estimated 1,455 acres designated in one of the following four farmland categories:

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Locally Important Farmland

Exhibit C-OS 2 shows the important farmland located in the City and Sphere of Influence. Attachment A in the Agricultural Element contains definitions of these four categories and other farmland terms.

Outside the City limits but within the Calexico Sphere of Influence there are almost 3,200 acres of farmland. More than 500 acres fall into the Prime Farmland category while almost 2,600 acres are of statewide importance.

Exhibit C-OS 2
City of Calexico Important Farmland by Category-2012



According to the 2013 Imperial County Agricultural and Livestock Report gross production for 2013 was valued at $2,158,517,000, a new record for Imperial County. This is an increase of $212,758,000 (10.93%) compared to the 2012 gross value of $1,945,759,000. About 26% of agricultural production in 2013 came from feeder cattle (beef) ($552 million). This was driven by demand from National Beef that operated a processing facility in Brawley. In April 2014 National Beef ceased operations and moved out of California. The closure resulted in the complete elimination of beef-livestock production and over 1,300 direct jobs (approximately $40 million annually in direct wages).

Additional and more detailed information on agricultural lands is found in Section 10.0 - Agricultural Element.

5.2.3 Open Space for Outdoor Recreation

One of the most striking and inextricable features that defines the context of the City of Calexico is the vast agricultural lands that surround it. Vistas of expansive, flat, contiguous, irrigated cropland set against distant mountains give the City an attractive and decidedly rural feel. These aesthetic resources should be preserved in order for Calexico to retain a significant portion of its character and sense of place.

The City's existing parks and fields and joint use facilities with Calexico Unified School District (CUSD) have a combined total of 128.55 acres:

- Existing parks 60.30
- Existing fields 24.73
- Joint use facilities 43.52

128.55

Based on Calexico's current (01/01/2015) population of 41,033 and 3-acre per 1,000 population standard, the City should have 123 acres of park and recreation land. As listed above, the City's existing parks and fields and joint use facilities with CUSD have a combined total of 128.55 acres. By counting the joint use facilities, park supply exceeds demand by 5.55 acres.

By 2035, the City's population is projected to reach 62,800 or approximately 21,800 more persons than in January 2015. Thus, there will be a need for an additional 60+/- acres of park and recreation land. [21,800/1,000 = 21.8 x 3 = 65.4 – 5.55]

Almost one-half of the need for additional acreage will be met by the Heber Park expansion and parks located within several planned communities.

Additional and more detailed information on local parks is found in Section 6.0 – Parks and Recreation Element.

5.2.4 Open Space for Public Health and Safety - the New River

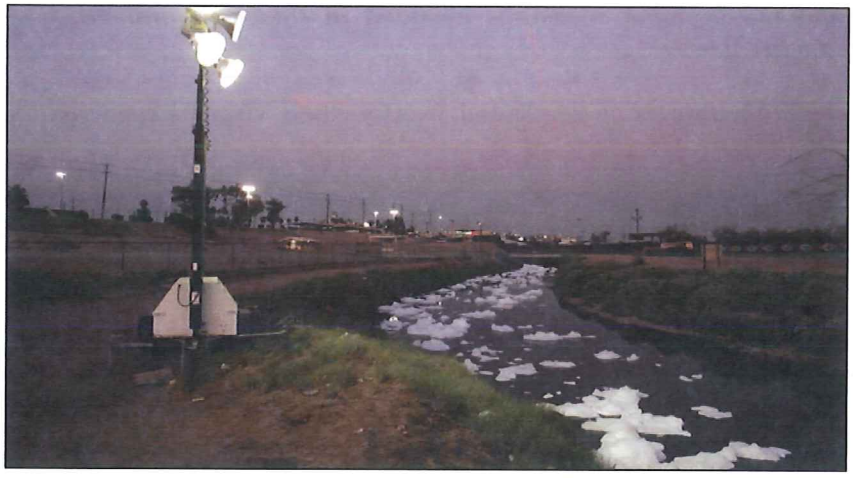
In the 1940s, the New River was widely recognized for its significant water pollution problems, primarily because of the odor of raw sewage. Since then, continuing growth of urban areas, industry and agriculture on both sides of the border, have further degraded the quality of water in the river. Pollution sources have included untreated municipal sewage, primarily from Mexicali, trash, treated and untreated, industrial discharges, treated effluent from municipal

wastewater treatment plants, urban storm drainage and a variety of agricultural irrigation runoff on both sides of the border.

By the 1970s and 1980s, the New River had already acquired the dubious reputation of being one of the most polluted in the U.S., with many of the pollutants posing serious human health hazards to local populations, particularly those in Calexico and Mexicali.

Since the 1990s, significant efforts have been made on both sides of the border to improve water quality conditions in the New River and its watershed. These improvements have included, among other improvements:

- Non-structural and structural controls to upgrade wastewater treatment in Mexicali; and improvements to wastewater treatment facilities in the U.S.
- Regulatory and voluntary pollution control and source reduction programs, especially in the Imperial Valley farming sector
- Structural projects within the Imperial Irrigation District
- Wetlands demonstration projects along the New River (and neighboring Alamo River)



Despite these extensive efforts in the U.S. and Mexico, water quality in the New River remains out of compliance with many U.S. water quality standards. Water pollution levels pose health and quality of life concerns in Calexico and the Imperial Valley, as well as being sources of pollution to the Salton Sea.

Based on the most recent data available, the water quality impairments of the New River in the U.S. include: low dissolved oxygen, toxicity, pathogens, trash, selenium, sediment/silt, chlordane, DDT, dieldrin, toxaphene, PCBs, HCB, nutrients, mercury, chlorpyrifos, diazinon, copper and zinc7.

The Land Use Element OS designation is used for areas such as publicly-owned land along the New River where currently public access is prohibited due to the contamination of the river.

5.4 GOALS, OBJECTIVES, POLICIES AND IMPLEMENTATION MEASURES

This part includes the goals, objectives and policies for the following:

- Water Conservation
- Soils Management
- Open Space for the Preservation of Natural Resources
- Open Space for Outdoor Recreation

- Open Space for Public Health and Safety

Open Space for Outdoor Recreation also is discussed in Section 6.0 – Parks and Recreation Element.

Open Space for the Managed Production of Resources is discussed in 10.0 – Agriculture Element.

Part 5.4.6 describes the Implementation Measures of the Conservation/Open Space Element.

5.4.1 Water Conservation

Goal: Conserve water to the maximum degree possible.

Objective: Achieve the water conservation objectives of the *2010 and 2015 Urban Water Management Plans* and the City's *Plan to Reduce Greenhouse Gas Emissions*.

Policies:

- Implement the demand management measures included in *the 2010 and 2015 Urban Water Management Plans*.

- Meet the water conservation targets promulgated by the State Water Resources Control Board.

5.4.2 Soils Management

Goal: Properly manage soils as development is proposed and evaluated in the future.

Objective: Continue using soil management techniques that minimize soil related problems, including erosion, shrink-swell behavior, and septic tank failure.

Policies:

- To reduce or eliminate soil erosion and pollution, ensure that construction activity is in compliance with the State's General Permit for Construction Activities administered by the California Regional Water Quality Control Board, located in Palm Desert (Region 7). One condition of this permit is the development and implementation of a site-specific Storm Water Pollution Prevention Plan ("SWPPP") that identifies Best Management Practices ("BMPs") to reduce/eliminate erosion and sedimentation associated with construction.
- Require of all new development requiring discretionary approval a geotechnical investigation by a registered geotechnical engineer that discusses, at least, liquefaction, subsidence, shrink/swell potential, soil strength, landslide potential, distance to known fault rupture zones. All geotechnical studies shall be submitted to the City of Calexico Building and Safety Department for review and approval.
- Soils with moderate or high permeability capacity should be left in undeveloped (perhaps used as open space where appropriate) to reduce runoff and facilitate groundwater recharge.

- Agricultural areas should not be disturbed to the extent that erosion will occur without the initiation of proper soil management measures.

5.4.3 Open Space for the Preservation of Natural Resources

Goal: Preserve and restore natural resources.

Objective: Identify, protect, and improve significant ecological and biological resources in and around the City of Calexico.

Policies:

- Support regional and sub-regional efforts to conserve ecological and biological resources in the City and surrounding areas.
- Support efforts to integrate natural wetlands treatment systems as part of the New River Improvement Project.
- Projects of one acre or more involving alteration or development of undisturbed land shall be required to submit a biological survey conducted by a qualified biologist to the City of Calexico. A focused biological study may be required if habitat that could potentially support a listed or threatened species exists on the site.

5.4.4 Open Space for Outdoor Recreation

Goal: Provide for recreational opportunities through the New River Parkway.

Objective: Develop the New River Parkway to include a walking path, bike path, sports field, native vegetation and other amenities.

Policies:

- Continue to seek funding from Federal, State and Regional agencies.
- Support the efforts of the New River Committee to secure funding to implement the programs and projects included in the New River Improvement Project.

5.4.5 Open Space for Public Health and Safety

Goal: Remediate and enhance the New River's water quality to protect human health.

Objective: Provide administrative support to the New River Committee so the City is in the position to direct attention to both immediate and long term projects that will contribute to implementation of the *New River Improvement Project Strategic Plan.*

Policies:

- Support and participate in any bi-National, State, local, or federal program that will preserve the successes already made toward the reduction of pollution in the New River.
- Identify funding sources for specific projects and make matching funds available for pollution reduction and open space enhancement programs.

- Assign a member of City staff to develop newsletters, web-site information, public service announcements, press releases, and other public information about the programs at the New River on a regular basis.
- Ensure that areas within close proximity of the New River within the City of Calexico are zoned for permanent Open Space to discourage development and ensure sufficient area to develop future recreational areas.

5.4.6 Implementation Measures

5.4.6.1 Urban Water Management Plans

UWMPs provide a framework for long term water planning and a vehicle that informs the public how agencies are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future demands.

The State Department of Water Resources (DWR) has worked to update the UWMP Guidebook for the 2015 round of UWMPs. The release of the update to the 2015 Guidebook is targeted for September 2015. The 2015 Guidebook Outline requires a discussion of the service area climate and optional discussions of climate change. The City's *2015 Urban Water Management Plan* is due by July 1, 2016.

Demand management measure (DMM) refer to practices, procedures and methods to reduce water demands, including but not limited to behavior change, installing high-efficiency water fixtures, and financial incentives or penalties to encourage wise water use and discourage water waste.

The demand management measure section of an UWMP specifies that water suppliers must describe the implementation or plans for implementation for each of the following 14 DMMs:

- Water survey programs for single-family residential and multi-family residential customers
- Residential plumbing retrofit
- System water audits, leak detection, and repair
- Metering with commodity rates for all new connections and retrofit of existing customers
- Large landscape conservation programs and incentives
- High-efficiency washing machine rebate programs
- Public information programs
- School education programs
- Conservation programs for commercial, industrial, and institutional accounts
- Wholesale assistance programs
- Conservation pricing
- Water conservation coordinator
- Water waste prohibition
- Residential high efficiency toilet (HET) replacement programs

5.4.6.2 New River Improvement Project Strategic Plan

The *Strategic Plan* was approved in May 2012. Attachment A describes the programs and projects for the New River and discusses those specific to Calexico. The City will continue to

support implementation of the *Strategic Plan* and the efforts of the Calexico New River Committee.

5.4.6.3 Agricultural Element

The Agricultural Element (Section 10.0) describes implementation measures to preserve and protect agricultural lands within the City limits as well as the Sphere of Influence.

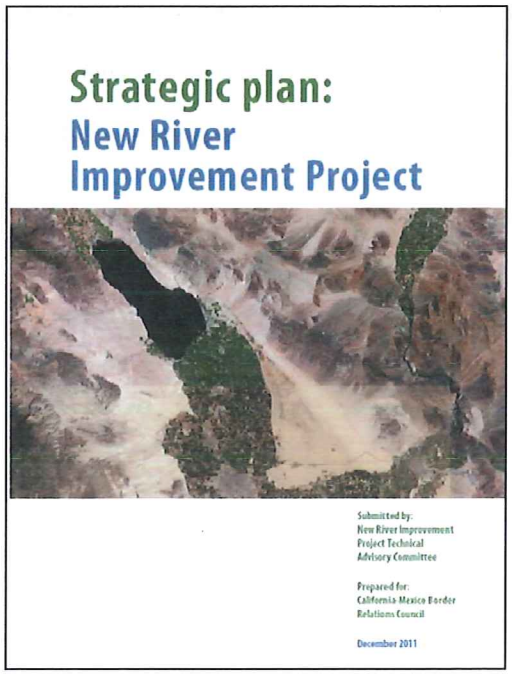
5.4.6.4 Parks & Recreation Element

The Parks & Recreation Element (Section 6.0) describes implementation measures to meet outdoor recreation needs. The Element includes as a high priority the development of the New River Parkway and Bike Path as a key recreational asset to the Calexico community.

ATTACHMENT A
NEW RIVER IMPROVEMENT PROJECT
TEXT AND GRAPHICS ARE FROM THE
NEW RIVER IMPROVEMENT PROJECT STRATEGIC PLAN
DECEMBER 2011

A. BACKGROUND

Assembly Bill 1079 (Pub. Resources Code, § 71103.5, added by Stats. 2009, ch. 382, § 1), authored by Assemblyman Victor M. Perez, requires the California-Mexico Border Relations Council to create a strategic plan to study, monitor, remediate and enhance the New River's *water quality* to protect human health and develop a *river parkway* suitable for public use and enjoyment. Creation of a river parkway in Calexico is also specified in Federal legislation, as part of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU Public Law 109-59). Specifically, the strategic plan is required to:



- Quantify water quality impairments and their threat to public health
- Identify and prioritize actions to protect public health, meet water quality objectives and other environmental goals
- Identify funding sources
- Identify public agency roles and responsibilities for implementation.

Pursuant to provisions in Assembly Bill 1079, the Chair of the Council appointed the New River Technical Advisory Committee (TAC) to oversee the development of the Plan and ensure community involvement. The TAC began work in the summer of 2010 and continued with multiple internal and stakeholder interactions through fall of 2011. The TAC organized its technical work into four Work Groups:

- Vision
- Impairments
- Remediation
- Funding and Legal

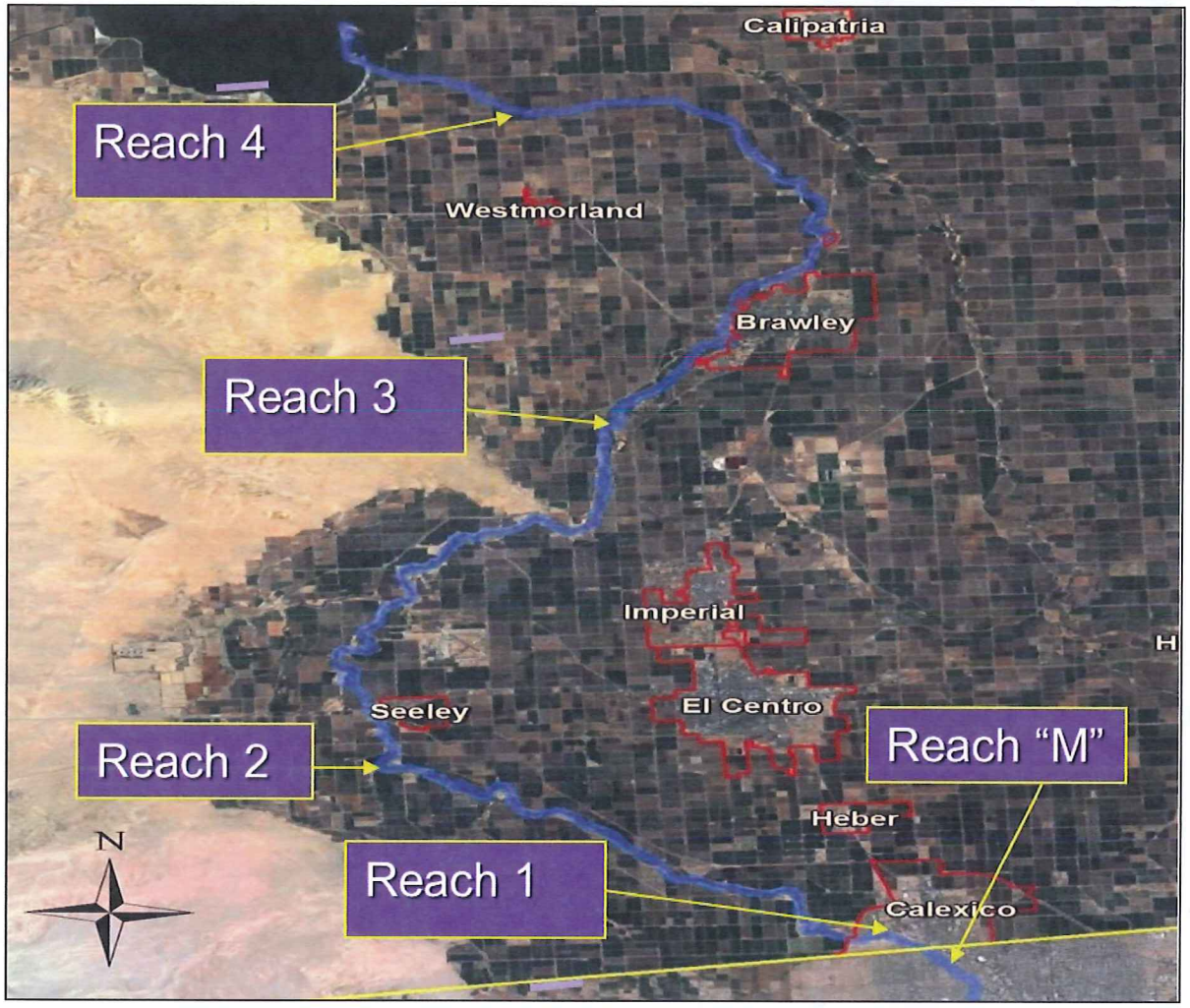
The *New River Improvement Project Strategic Plan* was completed in December 2011. The Plan was adopted by the California-Mexico Border Relations Council in May 2012.

B. RECOMMENDED PROGRAMS AND PROJECTS

To identify tailored solutions to specific problems, the TAC divided the river in five reaches:

"M" Mexicali Reach: from the Mexicali Valley to the International Boundary
1. Calexico Reach: from the International Boundary to Highway 98
2. Seeley Reach: from Highway 98 to Evan Hughes Highway at Seeley

3. **Brawley Reach:** from Evan Huges Highway to New River Drop 2 by Brawley
4. **Salton Sea Reach:** from New River Drop 2 to its outlet to the Salton Sea



This approach also provides for understanding opportunities and constraints for parkway development in the Calexico area and for meaningful water quality remediation for the entire river, as required by AB 1079. The solutions recommended in this plan are based on the following:

1. Continue to clean up the river, building on the regulatory approaches, structural facilities and source control programs that have been working well already.
2. Where existing methods and programs are not suited to specific problems, identify additional program and/or project solutions that most effectively and appropriately address remaining problems.

The recommended solutions in Strategic Plan are the actions that had the highest priority among all of the many alternatives considered, based on the opportunities, constraints and goals for the system as a whole.


Recommended Programs and Projects
SALTON SEA
Aquaculture Ponds on Dry Playas
REACH 4: SALTON SEA
NEW RIVER
ALAMO RIVER
Habitat Restoration
Continue Imperial Valley Farm Bureau Voluntary TMDL Compliance Program
BRAWLEY
REACH 3: BRAWLEY
Continue TMDL Programs
• Silt
• Pathogens
• Trash
• Dissolved Oxygen
Continue Imperial Irrigation District Drain Improvement Program
IMPERIAL
SEELEY
EL CENTRO
REACH 2: SEELEY
Aeration Structures at Key Locations
CALEXICO
Return Flow Options
Calexico River Parkway Development
REACH 1: CALEXICO
Disinfection Facility
USA
MEXICO
ALL AMERICAN CANAL
Trash Screen on Mexico Border Crossing
Develop Watershed Management Approach
• Solid Waste
• Enforcement / Monitoring
• Education / Outreach
• Technical Assistance
not to scale
Continue to Improve Municipal Wastewater Treatment
REACH M: MEXICALI
River Parkway
Disinfection Facility
Trash Screens
Priority Treatment Wetland Site Options
Aeration Devices (Generalized locations)
Existing Wastewater Treatment Facilities

C. CALEXICO REACH

The Calexico Reach of the New River starts at the U.S./Mexico International Boundary, passes by the west side of Calexico and ends where the river crosses Highway 98, a total of nearly four miles. Many residents have formed an idea for what they want to see in Calexico based on development in Mexicali, where the New River has been buried underground through the center of the city. Mexicali has begun to develop an urban civic corridor with a wide boulevard through the middle of the river's floodplain. This has not improved the ecological health of the river, but it has provided an urban amenity and economic development for the local community that has catalyzed revitalization in the areas surrounding that corridor.

On the U.S. side of the International Boundary, the City of Calexico desires improved civic and urban amenities as well. Fundamental improvements to the quality of the New River can convert a liability into an asset to provide recreational space and attract investment in order to improve the quality of life in Calexico.

The Strategic Plan's vision calls for a healthy river corridor that is an asset to people and communities. Calexico is the most populated stretch of the river on the American side of the International Boundary. The community wants to access the floodplain as a recreational amenity that also supports economic development and community improvement opportunities for the area. This is articulated by this plan's goal for public health and for the economy. The creation of a River Parkway in the floodplain here implements the vision and goals of this plan. However, there are many design challenges because pollution coming from Mexicali is the most concentrated in Calexico (including high levels of pathogens that affect REC I and II water quality requirements for recreation) and because of the close proximity of the urban area and lack of space that creates for remediation projects.

It would be both difficult and undesirable to enclose or bury the New River through Calexico, as Mexicali has done, because of a variety of regulatory, environmental and water quality constraints. Such a project would not resolve water quality impairment concerns in the river or the Salton Sea, which is also a goal of this plan. In addition, funding programs strongly favor comprehensive environmental restoration of rivers over underground channelization. For these reasons, the TAC unanimously rejected the idea of simply piping the river from the International Boundary to Highway 98, as originally envisioned by many Calexico and Imperial Valley residents. Instead, the TAC favored a comprehensive, approach that identifies a series of solutions that respond to specific opportunities and constraints throughout this reach and the river corridor as a whole.

In the Calexico reach, water quality improvements must focus on supporting the implementation of a river parkway to leverage the social and economic opportunities in this area. Integrating these functions in this strategic plan results in multiple benefits such as recreation, economic development, transportation, goods movement, urban design, national security and historic preservation. This kind of interrelated project design and integration makes these projects more competitive for funding because it makes a larger range of funding sources available and demonstrates a greater degree of cost sharing among the combined efforts. Funders often favor projects that can leverage their investments and achieve additional overall benefit.

Specific objectives of the Strategic Plan for the Calexico Reach include:

- Urban revitalization in Calexico and increased public recreational and habitat amenities
- Removal of potential or perceived health hazards as a result of exposure to polluted New River water
- Remediation of pathogens, low dissolved oxygen, trash, toxicity and selenium
- Creation of the New River Parkway as an attractive amenity and recreational and open space resource for Calexico.

The Strategic Plan recommendations specific to the Calexico Reach include:

- The U.S. Government should: either (a) construct, operate and maintain **trash screens** for the New River immediately downstream from the International Boundary in the U.S., or (b) assist Mexico so that Mexico constructs, operates and maintains trash screens for the New River immediately upstream from the International Boundary in Mexico; and

- Construct, operate and maintain a conveyance and ozonation **disinfection treatment facility** near the Calexico Wastewater Treatment Plant to address pathogens and other contaminants.

- The U.S. Government and the State should continue to assist the City of Calexico to design and build the **Calexico River Parkway** to provide recreational, aesthetic and health benefits to the citizens of Calexico.

- The State and Regional Water Boards should continue to implement **the National Pollution Discharge Elimination System** (NPDES) Program for the Calexico Treatment Plant and the NPDES storm water program for the City.

D. RECOMMENDED SOLUTIONS

The following recommendations are likely to be implemented by various agencies in partnerships. For example, the structural solutions such as trash screens or a disinfection facility might involve the Army Corps of Engineers and General Services Administration designing and constructing facilities in consultation with the Regional Water Board and U.S. EPA. The facilities might be managed by a joint powers authority, one or several agencies (like the IBWC), or a new regional agency with broader New River responsibility. It is also important to point out that the numbering of these recommendations does not imply any sort of priority or preference. It is simply used for listing purposes.

1. Structural

Solution C.1: Trash Screen at the International Border in Mexico
Design and implement "Climber Screens" on the Mexicali side of the International Boundary. This project is designed to pre-treat the entire river for trash and coarse solids and would include a bar rack, an automated mechanical rake, trash conveyor and disposal system. Mexican officials have indicated a preliminary willingness to include this feature provided it is funded by U.S. sources.

Estimated Cost: $2.6 million

Solution C.1a: Trash Screens at the International Boundary in the U.S.
This is the same alterative as above, but if constructed in the U.S. it will be more costly to construct and maintain.

Estimated Cost: $4.2 million

Solution C.2: Conveyance and Disinfection Treatment Facility
A pump station and conveyance system would send flows to a disinfection facility. This facility would provide in-stream disinfection for normal flows of up to 140 cfs through the use of ozonation. Although other locations are possible, co-location of this facility with the Calexico wastewater treatment plant seems to be the most logical site. Flows above 140 cfs would remain in the river channel passing through Calexico via an overflow spillway near the International Boundary.

Estimated Cost: $71-86 million Estimated Cost of Conveyance: $17 million

Solution C.3: Disinfection Treatment Plant Return Flows
This would allow the treated water to return to the river channel to provide potential benefit to the future parkway, in-stream beneficial environmental uses and compliment restoration efforts in the downstream reaches and Salton Sea. There are a variety of approaches to return the treated water back to the river channel. Additional analysis is needed to evaluate the best option.

Back to the International Boundary: Treated water would be piped back to the New River channel near the International Boundary to create running water through the entire Calexico River Parkway.
Adjacent To the Treatment Plant: Water could be discharged back to the New River at a point closest to the treatment facility, thereby reducing conveyance costs. This would provide water for part of the Calexico River Parkway.
After The Parkway: The return flow pipe could connect with the New River north of the Calexico Parkway to by-pass Calexico altogether.
Diversion To Industrial Or Agricultural Use: The return flow could be diverted for an economically viable use such as cooling or use in a geothermal energy facility. This could result in private investment in the project. The project design and cost would depend on the proposed use.

Solution C.4: Aeration
Aeration would help remediate the problem of low dissolved oxygen and is relatively easy to implement. The various aeration methods include low cost solutions like boulders or rip rap, or higher cost features like drop structures, cascading aeration structures, mechanical surface aerators and circulators. These can be located anywhere where head and water velocity is sufficient, so long as it does not cause water to back up into drainage channels.

Estimated Cost: Varies widely depending on the design, quantity and placement.

Solution C.5: Calexico River Parkway
As specified by AB 1079 and federal transportation funding legislation, an open space and recreational parkway has been proposed and initial funding has been provided by Caltrans and a match from California Proposition 84. This project would provide great benefit to the community of Calexico and surrounding communities in terms of economic development,

aesthetics, recreation and public health and safety. It is key to leveraging environmental improvements to realize the social and economic goals for the region articulated in this plan. While the detailed design parameters of the parkway are just now being developed, it is certain that water quality clean-up, soil and river bed analysis and clean-up need to be pursued simultaneously with parkway planning. It is likely that the City of Calexico will continue to take the lead on planning and design of the parkway in partnership with Caltrans and close coordination with the State and Regional Water Boards, Resources Agency and other agencies who might be involved in water quality projects like the U.S. Army Corps of Engineers.

Estimated Cost: To be determined based on the final configuration of the parkway, clean-up issues, decisions on what land uses are to be in the parkway and similar issues.

2. Non-Structural

Solution C.6: Monitoring and Reporting Program
Currently, there is not a comprehensive monitoring and reporting program set up along the New River, but there are many individual monitoring and reporting activities as a result of TMDLs, the Farm Bureau program, IID's program and others. Integrating the various efforts together could reduce costs and improve information for adaptive management purposes in the future. The Regional Water Board would be an appropriate agency to coordinate and implement this program.

Estimated Cost: $1.5 million/year

Solution C.7: NPDES Programs, TMDLs
The Regional Water Board should continue to implement and enforce its NPDES Program to control the effluent discharged from the City of Calexico WWTP into the New River in this reach. It should also continue to implement the General NPDES Permit for Small MS4s to manage urban storm water runoff from Calexico. It should also continue to enforce its pathogen, DO and trash TMDLs.

Estimated Cost: Variable

E. CALEXICO RIVER PARKWAY FUNDING

Several years ago, $3.2 million was awarded to the City of Calexico through the Federal 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59, 119 Stat. 1144). These funds were designated for a "High Priority Project" (HPP), specifically to "develop bicycle paths and public park space adjacent to the New River, Calexico." The appropriation stayed in bureaucratic limbo until 2009 because of an inability to secure the required 20% match of non-federal funds.

In 2009, a suitable California non-General Fund match – river parkways funding – was identified for the federal $3.2 million. The State Budget Conference Committee agreed to an $800,000 appropriation from the California River Parkways Program administered by the California Natural Resources Agency to be used as matching funds. The budget language stated the funds were to be used "for various planning needs necessary to develop a river parkway plan and river improvement project for the New River." The expenditure is guided by the Agency's Proposition 84 Program Guidelines.

F. AB 965

AB 965, which was introduced by Assemblyman Eduardo Garcia in February 2015, would direct the California-Mexico Border Relations Council to work with other agencies to fund and implement the *Strategic Plan* and make restoration projects and the River Parkway and Bike Path eligible to compete for funding from various state programs. AB 965:

- Clarifies, under findings and declarations, that priorities and projects of the council shall be funded by the California Border Environmental and Public Health Protection Fund.

- Clarifies that the California Border Environmental and Public Health Protection Fund may receive proceeds of Proposition 1 bonds.

- Requires the council to establish the New River Water Quality, Public Health, and River Parkway Development Program to coordinate funding for, and the implementation of, recommendations from the strategic plan, and requires any entity of state government that funds the program to make efforts to integrate and align its financial requirements to meet the goals of the program.

- Updates the Urban Streams Restoration Program's definition of urban creek protection, restoration, and enhancement to include "the reduction of water quality impairments and nonpoint source water pollution, the establishment of parkways for public use that benefit flood control and water quality."

- Requires the Department of Water Resources, when administering funds for urban creek protection, restoration, and enhancement, to consult with the council to establish criteria to fund projects that improve conditions for cross-border urban creeks.

- Requires the Department of Fish and Wildlife, when administering funds for watershed restoration projects, to consult with the council to establish criteria to fund projects that improve conditions for cross-border urban creeks and watersheds.

The Bill has not yet been enacted.