Duck Farm Park Project

Technical Appendices

Prepared For:
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Appendix A

Air quality Calculations

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\WoodDuck 010807.urb
Project Name: Woodland Duck Farm Open Space Park
Project Location: South Coast Air Basin (Los Angeles area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2008 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	5.45	39.54	41.81	0.02	21.70	1.69	20.01

*** 2009 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	13.12	61.51	77.75	0.00	2.28	2.27	0.01

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.21	0.03	1.34	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.27	2.34	24.30	0.02	2.63

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.48	2.36	25.64	0.02	2.63

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\WoodDuck 010807.urb
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On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2008
Construction Duration: 12
Total Land Use Area to be Developed: 18 acres
Maximum Acreage Disturbed Per Day: 2 acres
Single Family Units: 0 Multi-Family Units: 0
Retail/Office/Institutional/Industrial Square Footage: 2000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	2.69	-	2.69
Off-Road Diesel	2.72	19.77	20.89	-	0.84	0.84	0.00
On-Road Diesel	0.39	6.86	1.45	0.02	0.20	0.16	0.04
Worker Trips	0.02	0.03	0.64	0.00	0.00	0.00	0.00
Maximum lbs/day	3.13	26.66	22.98	0.02	3.73	1.00	2.73
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	20.00	-	20.00
Off-Road Diesel	3.88	25.94	31.22	-	1.02	1.02	0.00
On-Road Diesel	0.01	0.16	0.03	0.00	0.00	0.00	0.00
Worker Trips	0.08	0.09	1.90	0.00	0.01	0.00	0.01
Maximum lbs/day	3.97	26.19	33.15	0.00	21.03	1.02	20.01
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	5.45	39.54	41.77	-	1.69	1.69	0.00
Bldg Const Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	5.45	39.54	41.81	0.00	1.69	1.69	0.00
Max lbs/day all phases	5.45	39.54	41.81	0.02	21.70	1.69	20.01
*** 2009***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	5.45	37.47	43.30	-	1.58	1.58	0.00
Bldg Const Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	3.36	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.24	-	-	-	-	-	-
Asphalt Off-Road Diesel	4.00	23.39	33.99	-	0.68	0.68	0.00
Asphalt On-Road Diesel	0.04	0.64	0.16	0.00	0.02	0.02	0.00
Asphalt Worker Trips	0.02	0.01	0.23	0.00	0.00	0.00	0.00
Maximum lbs/day	13.12	61.51	77.75	0.00	2.28	2.27	0.01
Max lbs/day all phases	13.12	61.51	77.75	0.00	2.28	2.27	0.01

Phase 1 - Demolition Assumptions
Start Month/Year for Phase 1: Jun '08
Phase 1 Duration: 0.2 months
Building Volume Total (cubic feet): 19200
Building Volume Daily (cubic feet): 6400
On-Road Truck Travel (VMT): 357
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Other Equipment	190	0.620	8.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: Jun '08
Phase 2 Duration: 2.8 months
On-Road Truck Travel (VMT): 8
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Crawler Tractors	143	0.575	8.0
1	Graders	174	0.575	4.0
1	Off Highway Trucks	417	0.490	2.0
1	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '08
Phase 3 Duration: 9 months
Start Month/Year for SubPhase Building: Sep '08
SubPhase Building Duration: 9 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
2	Other Equipment	190	0.620	8.0
2	Tractor/Loaders/Backhoes	79	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: May '09
SubPhase Architectural Coatings Duration: 1 months
Start Month/Year for SubPhase Asphalt: May '09
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 1
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
1	Graders	174	0.575	8.0
1	Pavers	132	0.590	8.0
1	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.00	0.02	0.02	0	0.00
Hearth - No summer emissions					
Landscaping	0.19	0.01	1.32	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
Architectural Coatings	0.02	-	-	-	-
TOTALS(lbs/day,unmitigated)	0.21	0.03	1.34	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Visitor center	0.28	0.35	3.61	0.00	0.39
City park	1.99	1.99	20.69	0.01	2.24
TOTAL EMISSIONS (lbs/day)	2.27	2.34	24.30	0.02	2.63

Does not include correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2009 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Visitor center		23.00 trips/1000 sq. ft.	2.00	46.00
City park		6.86 trips/acres	37.45	256.91
		Sum of Total Trips		302.91
		Total Vehicle Miles Traveled		1,732.06

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.90	1.30	98.40	0.30
Light Truck < 3,750 lbs	15.10	2.60	95.40	2.00
Light Truck 3,751- 5,750	16.10	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	75.00	25.00	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	5.5	5.5
Trip Speeds (mph)	35.0	40.0	40.0	40.0	40.0	40.0
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
Visitor center				2.0	1.0	97.0
City park				5.0	2.5	92.5

Changes made to the default values for Land Use Trip Percentages

The Primary Trip % for Elementary school changed from 60 to 80
The Diverted Trip % for Elementary school changed from 25 to 15
The Pass-By Trip % for Elementary school changed from 15 to 5

Changes made to the default values for Construction

The user has overridden the Default Phase Lengths

Changes made to the default values for Area

The hearth option switch changed from on to off.
The landscape year changed from 2005 to 2009.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0116.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2009.

Appendix B

Woodland Duck Farm Phase I Biological Reconnaissance Survey

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Memorandum

Date: November 10, 2006
To: Mr. Frank Simpson, Project Analyst
San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy
From: Ms. Jeanette Duffels, Ms. Andrea CurryLow
Subject: Woodland Duck Farm Phase 1 Reconnaissance Survey

Distribution:

INTRODUCTION

This memorandum transmits the results of a biological reconnaissance survey conducted by EDAW Inc. biologists (Ms. Andrea CurryLow and Ms. Jeanette Duffels) on October 19, 2006 at a portion of the former Woodland Duck Farm site.

Project Location

The project site is located roughly south of Interstate 10 (I-10, San Bernardino Freeway) on the eastern bank of the San Gabriel River adjacent to Interstate 605 (I-605, San Gabriel River Freeway) The 43-acre project site extends from Valley Boulevard on the north to Peckham Road on the south, the San Gabriel River on the west, and Rall Avenue and Ramada Avenue to the east. Interstate 605 bisects the project site into east and west sections. The project site is located in unincorporated County of Los Angeles in the community of Avocado Heights. Access to the project site is currently provided from Proctor Street, Rall Avenue, and Temple Avenue.

Project Description

The Watershed Conservation Authority (WCA), a joint powers authority of the Los Angeles County Department of Public Works (LADPW) and the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC), is proposing to develop a park along the San Gabriel River on a portion of the former Woodland Duck Farm site. The project site was operated as a duck farm for more than 50 years, until approximately 2001. The Duck Farm site occupies approximately 90 acres and is currently occupied by nurseries and vacant land.

A phasing plan has been developed for the park to implement the park construction in multiple phases. Phase 1 is located on the 43-acre portion of the project site that is within the Avocado Heights community of unincorporated Los Angeles County. The southeast corner the Phase 1 site contains a private equestrian center. The western edge contains an unoccupied house and gated grounds. The southwestern and northwestern corners contain commercial nurseries. The majority of the site contains disturbed ground with cover of ruderal vegetation. Both sides of Interstate 605, just outside of the project boundary, contain cover of ornamental trees, primarily gum trees (*Eucalyptus* sp.).

LITERATURE REVIEW

Prior to the reconnaissance surveys, EDAW biologists conducted a literature review to identify special status plants, wildlife, and habitats known to occur in the vicinity of the survey area. The California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS 2006), California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) (CDFG 2006a), and the current List of Special Status Animals (CDFG 2006b), were reviewed. The survey area is within the U.S. Geological Survey 7.5 minute *El Monte* quadrangle. The *Baldwin Park* quadrangle, east of the *El Monte* quadrangle, was also queried because of its close proximity to the survey area.

Results of the literature review and research identified the following sensitive plant and animal species as having the potential to occur in the vicinity of the survey area based on known occurrences within the *El Monte* and *Baldwin Park* quadrangles: Cooper's hawk (*Accipiter cooperii*), coastal western whiptail (*Aspidoscelis tigris stejnegeri*) western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), many-stemmed dudleya (*Dudleya multicaulis*), southwestern willow flycatcher (*Empidonax traillii extimus*), southwestern pond turtle (*Emys marmorata pallida*), mesa horkelia (*Horkelia cuneata* ssp. *puberula*), yellow-breasted chat (*Icteria virens*), Western yellow bat (*Lasiurus xanthinus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), Orcutt's linanthus (*Linanthus orcuttii*), big free-tailed bat (*Nyctinomops macrotis*), Brand's phacelia (*Phacelia stellaris*), coast horned lizard (*Phrynosoma coronatum blainvillii*), coastal California gnatcatcher (*Polioptila californica californica*), Parish's gooseberry (*Ribes divaricatum* var. *parishii*), southern skullcap (*Scutellaria bolanderi* ssp. *austromontana*), American badger (*Taxidea taxus*), and least Bell's vireo (*Vireo bellii pusillus*). Sensitive plant communities with known occurrences in the vicinity of the survey area include California walnut woodland, Riversidian alluvial fan sage scrub, and walnut forest.

SURVEY METHODS

General reconnaissance surveys of the Phase 1 project site were conducted by EDAW biologists (Ms. Andrea CurryLow and Ms. Jeanette Duffels) on October 19, 2006. The survey encompassed approximately 43 acres. This area historically has been used for agricultural and livestock operations. Temperatures during the survey ranged from 60º to 87º Fahrenheit; skies were clear and winds ranged from 0 to 2 miles per hour. The purpose of the reconnaissance survey was to assess current biological conditions, identify plant and animal species present on the survey area, map vegetation communities, evaluate the potential of the survey area to support sensitive and special status species, and to identify

any potential jurisdictional areas. Representative site photographs are included in Appendix A.

The survey area was generally mapped for vegetation and other cover types. The survey area contains no native plant communities as described in CDFG's *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (2003) or as classified according to Holland (1986) or Sawyer and Keeler-Wolf (1995). Attachment A depicts specific and representative vegetation cover within the main survey area.

Plant species were identified in the field or collected for later identification. Taxonomy and nomenclature for plants follows Hickman (1993) and Munz (1974). Taxonomy and nomenclature for wildlife follows Behler (1998) for amphibians and reptiles, American Ornithologist Union (1998) and Sibley (2000) for birds, and Burt et. al (1992) for mammals. Listings of plants and wildlife observed or detected by sign (tracks, scat, burrows, etc.) during the reconnaissance surveys are included in Attachment B and Attachment C, respectively.

SURVEY RESULTS

The majority of the site is heavily disturbed and has cover of ruderal vegetation, such as horseweed (*Conyza canadensis*), telegraph weed (*Heterotheca grandiflora*), black mustard (*Brassica nigra*), pigweed (*Chenopodium* sp.), and tumbleweed (*Salsola tragus*). There are occasional mature native blue elderberry trees (*Sambucus mexicana*) and stands of ornamental trees such as Chinese elm (*Ulmus parviflora*), gum tree, and ash (*Fraxinus* sp.). Soils in ruderal areas were tilled as accomplished with a tractor-drawn rotary tiller or similar apparatus. There are some power transmission towers and remaining building foundations throughout. One garage structure is present on the north side of Interstate 605 in the center of the survey area. Unpaved roads, either bare or spread with decomposed granite, traverse the site. Trash and debris litter the survey area. No drainages or potential wetlands were detected in the project site during the reconnaissance survey. Vegetation and cover types in the survey area are shown in Attachment D.

As described above, the southeast corner the Phase 1 site contains a private equestrian center. The western edge contains an unoccupied house and gated grounds. The grounds around the house contain a variety of ornamental shrubs and trees. The southwestern and northwestern corners contain commercial nurseries. Observed on both sides of Interstate 605, just outside of the project boundary, are a cover of ornamental trees, primarily gum trees.

Special Status Plants and Animals

No special status plants or wildlife were detected during the reconnaissance survey, however, focused surveys for sensitive species were not conducted at the time of the site visit. As noted above, several sensitive species have been identified by the CNDDB and CNPS literature review as having the potential to occur in the vicinity of the survey area. No sensitive plant communities were detected in the survey area.

The survey area contains suitable foraging habitat for Cooper's hawk (a designated Species of Special Concern by CDFG). The Cooper's hawk utilizes open fields for hunting and mature trees for feeding, perching, and roosting. It preys on small birds, burrowing mammals and reptiles. The western edge of the survey area contains the large trees utilized by the species while the rest of the project site contains the open fields and low shrub habitats that is preferred by its prey. The nearest reported sighting of Cooper's hawk was approximately 4 miles northeast of the survey area in Irwindale in 2001.

The survey area contains low quality habitat (open, semiarid areas with sparse vegetation) for coastal western whiptail (CNDDB listing only- no status). Coastal western whiptail is unlikely to occur in the survey area due to the disturbed nature of the project site and the lack of habitat connectivity with known populations. The nearest known sighting of this species was approximately 4 miles northeast of the survey area in Irwindale in 2001.

Western yellow-billed cuckoo, a federal candidate and state endangered species is known to occur along the San Gabriel River, particularly near El Monte. The survey area, however, lacks suitable riparian habitat for this species to nest and it is therefore not likely to occur in the survey area.

Yellow-breasted chat, a CDFG-designated Species of Special Concern, is also associated with watercourses, however, the survey area does not contain suitable riparian habitat for this species to nest.

The survey area contains several palm trees (in the grounds around the unoccupied house) that may provide roosting habitat for western yellow bat (CNDDB listing only- no status). The San Gabriel River may also provide foraging habitat for this species. The nearest known sighting of this species was approximately 9 miles northeast of the survey area in Azusa in 1987.

The survey area lacks suitable habitat and/or food sources for the other sensitive wildlife species identified during the literature search. Due to the heavily disturbed nature of the soils and lack of suitable habitat, there is low potential for sensitive plants to occur in the survey area. The survey area, however, contains habitat suitable for raptors such as red-tailed hawk (*Buteo jamaicensis*), red shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucrus*), American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*). Characteristic habitat for raptors contains mature trees for perching, roosting, nesting, and surveying for prey and open scrub and/or grassland for foraging.

In addition to the potential sensitive species-specific habitat issues identified above, it should be noted that, in general, development within the survey area may result in the loss of native and non-native habitats that provide valuable nesting, roosting, foraging, and denning opportunities for a wide variety of wildlife species. Removing or altering habitats within the project's direct impact area would result in the loss of small mammals, reptiles, and other animals of slow mobility. More mobile wildlife species now using the survey area would be forced to move into remaining areas of open space, consequently increasing competition for available resources in those areas. This situation may result in losing individuals of the wildlife population that cannot successfully compete.

Most bird species found within the vicinity of the survey area are protected by international treaty under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711).

MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21). Sections 3503, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15, annually). Disturbance that causes nest abandonment or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or the loss of habitat upon which the birds depend is considered "take" and is potentially punishable by fines and/or imprisonment. Such take would also violate federal law protecting migratory birds (e.g., MBTA).

Wildlife Corridors and Wildlife Movement

Wildlife corridors are relatively narrow landscape features that provide connections between larger blocks of native habitat. Habitat linkages are broader native habitat patches that join larger patches of habitat and can reduce the adverse effects of habitat fragmentation. Wildlife migration corridors are essential in geographically diverse settings, and especially in urban settings, for the sustenance of healthy and genetically diverse animal communities. The survey area is unlikely to serve as a wildlife corridor. There are no adjacent open space areas or wildlife habitat for the survey area to function as a wildlife corridor.

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ATTACHMENT A: Representative Site Photos



Photo 1: Unoccupied house, adjacent grounds, and ornamental vegetation in background. Disturbed, ruderal habitat in foreground.



Photo 2: Ornamental trees associated with the unoccupied house in background and an adjacent disturbed area.



Photo 3: Commercial nursery located in the southwest portion of the survey area.



Photo 4: View from the southwest of the survey area, northeast aspect. Power transmission towers are in the background and disturbed ruderal habitat is in foreground. A cluster of ornamental trees is at the back left and line of gum trees along Interstate 605 is at the back right.



Photo 5: Gum trees bordering Interstate 605 in background and disturbed, ruderal habitat in foreground.



Photo 6: Equestrian center and associated structures in the southwest portion of the survey area.



Photo 7: Northeasterly aspect of the survey area.



Photo 8: Southwesterly aspect of the survey area. Access to the San Gabriel River is barred by the concrete barrier in the background on the right.

ATTACHMENT B: Floral Compendium
Plant species observed in the survey area on October 19, 2006

Scientific Name	Common Name
Dicots	
Apocyaceae	**Dogbane Family**
*Nerium oleander**	oleander
Asteraceae	**Sunflower Family**
Baccharis salicifolia	mule fat
Carduus sp.*	plumeless thistle
*Conyza bonariensis**	hairy fleabane
Conyza canadensis	horseweed
Heterotheca grandiflora	telegraph weed
*Lactuca serriola**	prickley lettuce
Brassicaceae	**Mustard Family**
*Brassica nigra**	black mustard
*Descurainia sophia**	tansy mustard
Caprifoliaceae	**Honeysuckle Family**
Sambucus mexicana	blue elderberry
Chenopodiaceae	**Goosefoot Family**
*Atriplex semibaccata**	Australian saltbush
Chenopodium sp.	pigweed, goosefoot
*Salsola tragus**	tumbleweed
Crassulaceae	**Stonecrop Family**
*Crassula ovata**	jade plant
Cucurbitaceae	**Gourd Family**
Cucurbita foetidissima	calabazilla
Dipsacaceae	**Teasel Family**
Dipsacus sp.*	teasel
Euphorbiaceae	**Spurge Family**
*Chamaescyce prostrata**	prostrate spurge
*Ricinus communis**	castor bean
Fabaceae	**Pea Family**
Melilotus sp.*	sweetclover
Lamiaceae	**Mint Family**
*Marrubium vulgare**	horehound
Myrtaceae	**Myrtle Family**
Callistemon sp.*	bottlebrush
Eucalyptus sp.*	gum tree
Nyctaginaceae	**Four O'Clock Family**
Bougainvillea sp.*	bougainvillea
Oleaceae	**Olive Family**
Fraxinus sp.*	ash tree
Olea europaea	olive tree
Plumbaginaceae	**Leadwort Family**
*Plumbago auriculata**	cape plumbago
Punicaceae	**Pomegranate Family**
*Punica granatum**	pomegranate tree
Rutaceae	**Rue Family**

Citrus sp.*	citrus tree
Sapindaceae	**Soap Berry Family**
*Cupaniopsis anacardioides**	carrot wood tree
Simaroubaceae	**Quassia or Simarouba Family**
*Ailanthus altissima**	tree of heaven
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
*Nicotiana glauca**	tree tobacco
Solanum sp.	nightshade
Ulmaceae	**Elm Family**
*Ulmus parviflora**	Chinese elm
Monocots	
Arecaceae	**Palm Family**
Washingtonia sp.*	fan palm
Poaceae	**Grass Family**
*Avena fatua**	wild oat
*Bromus diandrus**	rip-gut
*Bromus madritensis**	fox-tail
*Cynodon dactylon**	Bermuda grass
Pennisetum sp.*	fountain grass
*Piptatherum miliaceum**	smilo grass
Liliaceae	**Lily Family**
Agave sp.*	ornamental agave
Asparagus sp.*	ornamental asparagus
Yucca sp.*	ornamental yucca
Strelitziaceae	**Bird of Paradise Family**
Strelitzia sp.*	bird of paradise

* indicates a non-native species

APPENDIX C: Faunal Compendium
Wildlife species observed in the survey area on October 19, 2006

INSECTA	**INSECTS**
LEPIDOPTERA	**BUTTERFLIES AND MOTHS**
Pieridae	**White & Sulphur Family**
Pieris rapae	cabbage white
Lycaenidae	**Gossamer-winged Butterfly Family**
Subfamily Polyommatinae	**Blue Subfamily**
Brephidium exile	western pygmy-blue
AVES	**BIRDS**
CICONIIFORMES	**AMERICAN VULTURES AND ALLIES**
Cathartidae	**New World Vulture Family**
Cathartes aura	Turkey Vulture
FALCONIFORMIES	**DIURNAL BIRDS OF PREY**
Acciptridae	**Kite, Hawk, Eagle & Osprey Family**
Buteo jamaicensis	red-tailed hawk
Falconidae	**Caracara & Falcon Family**
Falco sparverius	American Kestrel
COLUMBIFORMES	**PIGEONS AND DOVES**
Columbidae	**Pigeons & Dove Family**
Zenaida macroura	mourning dove
APODIFORMES	**SWIFTS AND HUMMINGBIRDS**
Trochilidae	**Hummingbird Family**
Calypte anna	Anna's Hummingbird
PICIFORMES	**WOODPECKERS AND ALLIES**
Picidae	**Woodpecker & Allie Family**
Picoides pubescens	Downy Woodpecker
PASSERIFORMES	**PASSERINE BIRDS**
Tyrannidae	**Tyrant Flycatcher Family**
Empidonax sp.	flycatcher
Sayornis nigricans	black phoebe
Corvidae	**Crow & Jay Family**
Corvus brachyrhynchos	American crow
Aegithalidae	**Long-tailed Tit & Bushtit Family**
Psaltriparus minimus	Bushtit
Mimidae	**Mimic Thrush Family**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starling Family**

Sturnus vulgaris	European Starling
Parulidae	**Wood Warbler Family**
Dendroica coronata	yellow-rumped warbler
Emberizidae	**New World Sparrow Family**
Pipilo crissalis	California towhee
Melospiza melodia	Song Sparrow
Zonotrichia leucophrys	White-crowned Sparrow
Icteridae	**Blackbird Family**
Sturnella neglecta	Western Meadowlark
Passeridae	**Old World Sparrow Family**
Passer domesticus	House Sparrow
REPTILIA	**REPTILES**
SQUAMATA	**AMPHS., LIZARDS, AND SNAKES**
Iguanidae	**Iguanid Lizard Family**
Sceloporus occidentalis	Western fence lizard
MAMMALIA	**MAMMALS**
RODENTIA	**RODENTS**
Geomyidae	**Pocket Gopher Family**
Thomomys sp.	Pocket gopher
Sciuridae	**Squirrel Family**
Citellus beecheyi	California ground squirrel

Appendix C

Woodland Duck Farm Cultural Resources Technical Report

DRAFT
CULTURAL RESOURCES ASSESSMENT FOR THE PROPOSED WOODLAND DUCK FARM PROJECT, AVOCADO HEIGHTS, LOS ANGELES COUNTY, CALIFORNIA

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February 2007

U.S.G.S. Quadrangles: El Monte and Baldwin Park, CA

Keywords: San Gabriel River, Rio Hondo, Los Angeles County, Woodland Duck Farm, Ward Duck Company, Louise Ward Residence, Ranch House

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MANAGEMENT SUMMARY

The proposed project is being undertaken by the Watershed Conservation Authority (WCA) and consists of the development of a 43-acre park in the community of Avocado Heights in an unincorporated portion of Los Angeles County, California. The proposed Woodland Duck Farm is considered a "project" under the California Environmental Quality Act (CEQA). Accordingly, this cultural resources assessment has been conducted pursuant to CEQA guidelines. This report describes efforts to identify potential cultural resources within the project area. The document details the methods and results of the records search and literature review, the cultural resources survey, and discusses the eligibility of resources identified as a result of the study. Results of this study will be incorporated into a Mitigated Negative Declaration (MND) for this project.

A records search for the project was conducted at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton on June 12, 2006. The search indicated that twenty-three cultural resources investigations have taken place within a ½-mile radius of the proposed project area and that one historic resource and one prehistoric resource had been previously recorded within the search area. No cultural resources were previously recorded within the proposed project area itself, however a previous study had been conducted on a historic residence within the project area known as the Farm House or the Louise Ward Residence, but not filed with SCCIC. Additional research was conducted to inform the historical context of the project area, including a review of historic aerial photographs.

A cultural resources field survey was conducted on December 12 and 13, 2006 for the purposes of identifying and recording cultural resources within the project area. One archaeological site associated with the former use of the property as the Woodland Duck Farm was identified by surveyors. Seven buildings and one tunnel were identified during the cultural resources survey. Of these, six buildings are of historic age. The Woodland Duck Farm archaeological site and the six historic-era buildings were recorded on Department of Parks and Recreation (DPR) forms and will be assigned Primary numbers by the State Office of Historic Preservation. Of the resources evaluated, a single building identified as the "Farm House" was determined eligible for listing on the California Register of Historic Resources (CRHR). Further research on the Farm House indicated this resource had been previously evaluated; the site records however not having been filed with the SCCIC. Site records prepared as part of the previous evaluation were obtained for reference.

As currently planned, the proposed project includes the retention and re-use of the Farm House as a park Visitor and Interpretive Center. The exterior rehabilitation of the residence shall adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Building* and shall be conducted under the general direction of a qualified historic architect. In addition, as the present project proposes, the Farm House Visitor and Interpretive Center shall include a cultural element that features the historic use of the property as a duck farm.

In the event archaeological materials other than the remnants associated with the Woodland Duck Farm, described in Chapter IV, are encountered during earthmoving activities, the

construction contractor shall cease activity in the affected area until the discovery can be evaluated by a qualified cultural resources specialist (archaeologist) in accordance with the provisions of CEQA Section 15064.5.

I. INTRODUCTION

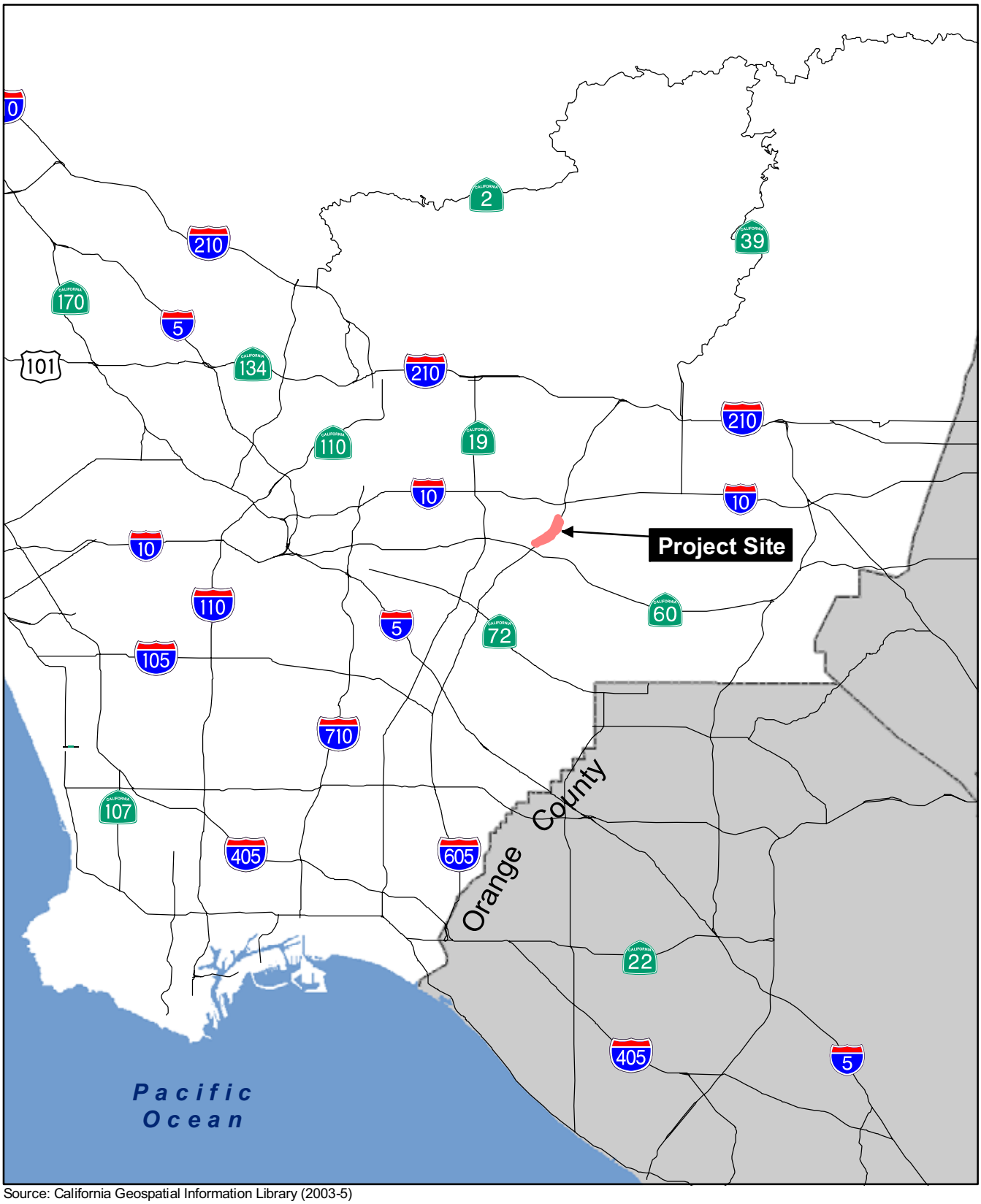
This document reports a cultural resources assessment in connection with the proposed development of a 43-acre park on the former site of the Woodland Duck Farm in the community of Avocado Heights, located in an unincorporated portion of the County of Los Angeles, California (Figure 1). This survey and assessment was conducted to support the Mitigated Negative Declaration (MND) prepared for this project under the California Environmental Quality Act (CEQA).

REPORT ORGANIZATION

This report is organized following the Archeological Resource Management Reports (ARMR): Recommended Contents and Format guidelines, Department of Parks and Recreation, Office of Historic Preservation, State of California, 1990. These guidelines provide a standardized format and suggested report content, scaled to the size of the project. First, project description and location information are provided. Next, the environmental and cultural settings are presented along with a brief historic overview of the project area. A description of the archival and field survey research methods follows. The final section summarizes the results of the research and provides recommendations for resource eligibility and further work.

PROJECT PERSONNEL

EDAW personnel involved in the cultural resources assessment are as follows: Monica Strauss, M.A., R.P.A., principal investigator and report author; Angel Tomes, M.A., architectural historian and report contributor; Sara Dietler, B.A, surveyor, archival researcher and report contributor; Linda Kry, surveyor; and Paul Levinson, graphics specialist. Resumes of key personnel are included in Appendix A.



Source: California Geospatial Information Library (2003-5)

N

1 inch equals 6 miles

0 3 6 12 Miles

Figure 1
Regional Location Map

II. PROJECT DESCRIPTION

The following section provides a description of the project location and setting and describes the various project components to be constructed.

A. PROJECT LOCATION AND SETTING

The WCA is proposing to develop a park along the San Gabriel River on a portion of the former Woodland Duck Farm property (Figure 2). The overall park plan consists of two phases of work (Phase 1 and Phase 2) and covers an area roughly 90 acres. The present project involves only the development of the 43-acre Phase 1 portion of the park plan (Figure 3). There is currently no funding for the Phase 2 projects and a lead agency has not been identified; as such, these projects are considered speculative and are not evaluated in this IS/MND. The Phase 2 improvements would be subject to future CEQA/National Environmental Policy Act (NEPA) analysis at the time they are proposed to be developed. Similar to the proposed project, it is anticipated that the Phase 2 analysis would fall under the SGRCMP PEIR.

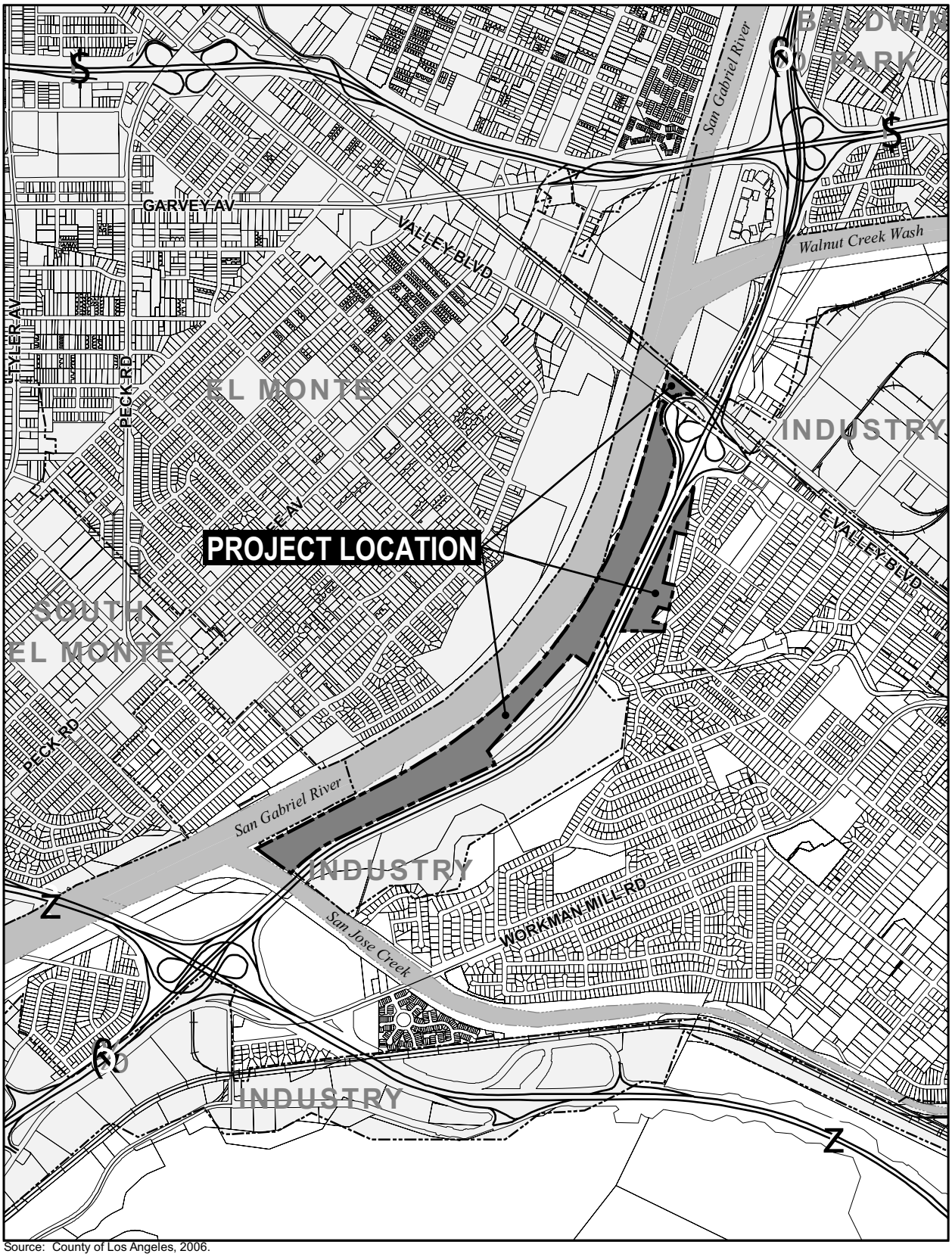
B. PROJECT COMPONENTS

The various Phase 1 project components and the associated phasing plan are described below.

Site Access and Parking Improvements

Under the proposed project, a number of access improvements would be implemented at the Duck Farm site. As under current conditions, emergency vehicle access onto the western portion of the project site would be provided via Temple Street. Improvements to the maintenance road at Temple Avenue would include road widening to 20 feet, turnouts every 600 feet, and loading capacity of 75,000 pounds to accommodate Southern California Edison (SCE) service vehicles, flood control trucks, and emergency vehicles. An emergency-access key entry system would be installed at the gate. No public access to the park would be permitted at the Temple Avenue location. A second emergency access point would be developed at the Proctor Street entrance and would serve the eastern side of the project site. Emergency access would be consistent with guidelines provided by the Los Angeles County Fire Department at project planning meetings. The Proctor Street entrance would include adequate turning radius for fire apparatus.

The primary public entrance and parking lot to the project site would be developed at Proctor Street. One WCA-owned residential property (255 San Fidel Avenue) on the southwest side of the Proctor Street entrance would be demolished and a permanent park entrance would be developed. The new entrance would include a lockable gate, landscaping, park signage, and a 150-space parking lot. The existing I-605 Freeway underpass at Proctor Street would be improved to provide safe pedestrian access between the east and west sides of the Duck Farm site. This would include resurfacing, drainage improvements, and lighting. Pedestrian gates would be installed at both ends of the underpass. No structural changes or widening of the underpass would occur. Access to the native plant nursery would be provided by this underpass.



Source: County of Los Angeles, 2006.

0 1,000 2,000 4,000 Feet

Figure 2
Location Map



Figure 3
Conceptual Site Plan

A secondary vehicular entrance would be developed further south along Rall Avenue to provide access to the equestrian facility and the neighborhood park. The two WCA-owned residential properties at this location, including the equestrian center residence (455 S Rall Avenue), would remain at the Rall Avenue entrance. A 100-car parking lot would be provided at the Rall Avenue entrance.

Several pedestrian access points would be developed on-site. New pedestrian entry gates would be developed on Ramada Avenue. In addition, a new access ramp and stairs would be constructed to provide pedestrian access from Valley Boulevard to the Duck Farm site. The access ramp would be ADA-accessible. A lockable gate would be installed at Valley Boulevard to prohibit access to the park after hours.

Two parking lots would be developed on the east side of the Duck Farm site: a 150-space parking lot near the Proctor Street entrance and a 100-space lot near the Rall Avenue entrance. Both lots would include bus and handicapped parking spaces. Bioswales and storm water retention basins would be developed around the parking lot to capture and detain surface runoff.

Trails

A network of trails would be developed on the Duck Farm site. Primary trails would serve as the main recreational circulation routes on-site and would ultimately connect the park to surrounding communities and regional trails. The primary trail would extend along the western edge of the site connecting a series of raised mounds along the river-edge promenade. Segments of the trail would be raised to the elevation of the flood control access road. Safety fencing and native landscaping would be installed along the river-edge promenade, which would be consistent with the guidelines approved for the SGRCMP. A new flood control access road would be developed in conjunction with the river-edge promenade along the levee. This access road would replace the existing paved access road on-site. In some areas, the promenade would extend beyond the levee edge via a cantilevered boardwalk to enhance wildlife viewing opportunities along the San Gabriel River. A river overlook would be constructed adjacent to the wildflower meadow on the San Gabriel River. A cantilevered overlook deck would suspend over the riprap wall of the San Gabriel River to allow for viewing of the river. No construction would occur within the channel.

Secondary trails would meander through the park, providing access to the many park features and amenities. Picnic tables, benches, shade structures, interpretive signage, and other passive recreational amenities would be developed along the trail system throughout the park.

Visitor Center

Major renovations would occur at the existing Farm House (12936 Valley Boulevard), including structural upgrades, mechanical, electrical, and plumbing improvements, and interior modifications to convert it into the Visitor Center for the site. The Visitor Center would include an interpretive center (history, ecology, energy, and agriculture), classrooms for neighborhood schools, and administrative facilities. The interpretive program would include a component that deals specifically with the historic significance of the Duck Farm, its relationship with the site

and the larger region as well as exhibits that illustrate its daily operations as they existed. A public restroom would be available at the Visitor Center. Native landscaping would be installed around the Visitor Center and interpretive displays describing the farming history of the area would be installed. Paths and walkways would connect the Visitor Center to the adjoining freshwater marsh, riparian corridor, and wildflower meadow areas.

A small outdoor amphitheater would be developed for use as an outdoor classroom for small school and park events. The amphitheater would be situated near the Visitor Center. No amplified events would be permitted at the amphitheater. Events at the amphitheater would be limited to the daytime hours and no outdoor lighting would be installed.

Native Plant Nursery

An approximately 4-acre native plant nursery would be developed on northwestern parcel. Access to the nursery for delivery and commercial vehicles would be provided via the I-605 underpass. The native plant nursery would operate as a commercial enterprise, catering specifically to local species and focusing on upland and wetland ecosystems. The nursery would be incorporated into the site's interpretive program through the use of informational material for the public, such as pamphlets, panels, and newsletters. In conjunction with the interpretive program, the nursery may also conduct workshops about native plant species, water use, and other horticultural topics, and could showcase landscape designs to encourage native planting in local yards and gardens.

Freshwater Marsh and Riparian Corridor

Approximately 14 acres of riparian vegetation would be planted on-site, starting at the northern end of the project site and continuing along the western edge of I-605. The vegetated area will be situated outside of the zones constrained by SCE easements to ensure unencumbered access to the power lines by SCE. Irrigation lines would be installed to develop and sustain mature riparian vegetation along this corridor (see "Utilities" below). Typical plant species along this corridor would likely include white alder (*Alnus rhombifolia*), red alder (*Alnus rubra*); a variety of willows such as arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), black willow (*Salix gooddingii*), and sandbar willow (*Salix exigua*); coast live oak (*Quercus agrifolia*); Western sycamore (*Platanus racemosa*), and Fremont cottonwood (*Populus fremontii*). The understory would consist of shrubs or smaller trees, such as mule fat (*Baccharis salicifolia*), blue elderberry (*Sambucus mexicana*), and twinberry (*Lonicera involucrata*). Herbaceous cover would include vines such as blackberry (*Rubus ursinus*).

A 1.5-acre freshwater marsh and demonstration wetland would be developed to the east of the Visitor Center at the southern end of the riparian corridor where Avocado Creek and I-605 converge. The wetland would be connected to a closed-loop irrigation system that would recirculate water to other portions of the site. Typical plant species in the freshwater marsh area would include low-growing, hydrophytic vegetation such as sedge (*Carex spp.*), nutsedge (*Cyperus spp.*), rush (*Juncus spp.*) bulrush (*Scirpus spp.*), cattails (*Typha spp.*), and grasses (*family Poaceae*).

Wildflower Meadow

A wildflower meadow would cover approximately 4 acres of land and would feature a wide variety of native upland species. The meadow would undulate to create topography that gradually reveals the meadow as one crosses it and would provide slopes varying in sunlight intensity so that a diverse mix of wildflowers would thrive. Native grasses would be allowed to flourish when wildflowers are not in bloom. Formal interpretation - in the form of panels and displays - would be minimal, as the focus would be on a self-guided discovery experience to foster aesthetic appreciation for California wildflowers. Signs would be placed at the meadow's edge to encourage visitors to view the flowers close-up. Reseeding would occur as needed in conjunction with the interpretive program or as a community event.

Upland Vegetation

Approximately two acres of upland vegetation would be planted between the wildflower meadow and native plant nursery. The upland vegetation area would include native scrub plant species such as California sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), giant ryegrass (*Leymus condensatus*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), mulefat (*Baccharis salicifolia*), rabbitbrush (*Ericameria sp.*), black mustard (*Brassica nigra*), California buckwheat (*Eriogonum fasciculatum*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), and lemonadeberry (*Rhus integrifolia*).

Neighborhood Park

A 2.6-acre neighborhood park would be developed on the east side of I-605. The neighborhood park would be designed to attract regular use by local residents. A 2.5-acre double-fenced dog park, with a fenced puppy and small dog area would be provided. A 0.5-acre community garden would be open to the public during park operating hours. An exercise circuit, open grassy areas for informal play, shaded picnic tables, barbecue pits, group picnic areas, and animal-resistant trash bins would also be provided. A meandering path system would encourage visitors to walk or jog through the neighborhood park. Shade trees, stone benches, and a children's play area would be placed adjacent to the path. All neighborhood park features would be ADA-complaint. A bulletin board may be situated at the park entrance for community notices. A 150-space parking lot (described above) would be located in the neighborhood park area, along with a small public restroom facility.

Equestrian Facility

As shown on Figure 3, the existing equestrian facility on the east side of the Duck Farm site would be expanded. The new privately operated 5.2-acre facility would include an office, stables, training rings, outdoor arenas, and other equestrian amenities. Access to the equestrian facility would be provided via a secondary park entrance at Rall Avenue. As described above, a new 100-car parking lot would be developed near the equestrian facility. Storm water runoff from the equestrian facility would be captured on-site using bioswales and retention basins.

Utilities

Potable water lines would be installed on-site, with a point of connection on San Fidel Avenue on the eastern property boundary. These lines would serve the interpretive center and would provide water for irrigation until reclaimed water sources are available at the site. Ultimately, a reclaimed water line would be developed along the Duck Farm site to supplement or replace the potable water sources used for irrigation; however, the reclaimed water line would occur in future project phases and is not a part of this project.

A 100-foot buffer would be maintained around all power lines on the project site to provide unencumbered access for SCE and the City of Los Angeles Department of Water and Power (LADWP) maintenance vehicles. These buffers would include grass, flowers, paving, decomposed granite, or other low-profile surface treatments. The park's primary trail system would be designed to accommodate emergency vehicle loading in accordance with SCE and LADWP requirements.

The proposed park would require some wooden utility pole relocations; however, no transmission lines or towers would be affected by the project.

The proposed drainage system at the Duck Farm site would be designed utilizing sustainable design methods and would not exceed existing outflow conditions. Constructed wetlands, vegetated swales, and bio-swales would be created on-site to reduce runoff velocities, encourage habitat, and remove storm water contaminants.

Park Operation

The park would be open from dawn to dusk and would be closed to public access at night. Security would be provided by park rangers.

C. CONSTRUCTION ACTIVITIES AND SCHEDULE

Park development would occur in two phases (Phase 1a and Phase 1b), as outlined below.

Phase 1a. The following project components would be developed on 23 acres in Phase 1a:

- Access improvements at the Proctor Street entrance
- One-acre pocket park (turf area, picnic tables, and signage)
- I-605 underpass improvements (lighting, water, electrical)
- ADA-accessible meandering interior trail (0.4 miles) connecting the Proctor Street entrance to the wildlife meadow and river overlook
- 2-acre wildflower meadow and river overlook
- River-edge improvements and temporary fencing
- 14-acre riparian corridor
- Temporary dirt "trail head" parking lot at Proctor entrance (20 parking spaces)
- 4-acre native plant nursery

Phase 1b. The following project components would be developed on 14.45 acres in Phase 1b:

- Permanent park entrance at Proctor Street
- Neighborhood park
- 150-space parking lot at Proctor Street and 100-space parking lot at Rall Avenue
- Maintenance road improvements
- Community garden with pedestrian access gate on San Fidel Avenue
- Dog park with pedestrian access gate on Ramada Avenue
- Expanded riparian corridor
- Meandering interior trail
- Upland vegetation
- River-edge promenade between Valley Boulevard and farmhouse
- Visitor Center (farm house renovation) and amphitheater
- Valley Boulevard sidewalk improvements and pedestrian access ramp
- Expanded equestrian facility
- One-acre freshwater marsh

Construction of the proposed project would occur in two phases: (1) site preparation, and (2) building construction and site finishing. Site preparation would include clearing and grading the site and installing the paved surface parking lot. The northern portion of the site would be graded for the installation of the building foundation and the landscaped storm water retention basin area would be graded to a maximum depth of 3 feet. Total grading for the project site is expected to be approximately 3,500 cubic yards of cut and fill during Phase 1a and 8,000 cubic yards of cut and fill during Phase 1b. Cut and fill would be balanced on-site. Also during the site preparation stage, vegetation would be removed and cleared. Trees to remain on-site would be flagged and/or removed during construction to be reinstalled after building construction. The site preparation phase is expected to last approximately 3 months.

The building construction phase would include foundation construction, utility connections, and structural construction. The site finishing stage would include parking space designation, driveway construction at Fair Avenue, and landscaping around the site and the landscaped storm water retention basin. The building construction and site finishing phase is expected to last approximately 9 months. All equipment would be maintained and operated in compliance with applicable South Coast Air Quality Management District (SCAQMD) standards.

The entire construction process is expected to last approximately 12 months (Table 1). Construction activities would only occur on weekdays, between 7:00 a.m. and 6:00 p.m. Construction is anticipated to begin in July 2008.

Table 1. Proposed Construction Schedule

Phase	Activity	Duration (Approx.)
1a	Site Preparation	3 months
1b	Building Renovation and Site Finishing	9 months
	Total Construction Period	12 months

III. PROJECT SETTING

The following section provides environmental and cultural settings and a brief historical background for the project area.

A. ENVIRONMENTAL SETTING

The project site lies on the east bank of the San Gabriel River in the Whittier Narrows region approximately two miles northeast of the confluence of the San Gabriel and Rio Hondo rivers. The site is situated atop a relatively flat floodplain between the rivers at an elevation of between 240 and 250 feet above mean sea level, rising gently to the northwest. Local soils consist of consolidated alluvium, characterized by silty-clays and sands, from fine to coarse, of undetermined thickness.

Historically, the confluence of the Rio Hondo and San Gabriel rivers formed a large wetland area. Prior to the channelization of the rivers they overflowed their banks regularly and were known to dramatically shift course in years of substantial rainfall. The riparian areas surrounding these rivers were thick with vegetation, including sycamores, cottonwood, larch, ash, willows, wild roses and grapes, and many smaller plants (McCawley 1996).

At the present time, the San Gabriel River runs in its channel to the west of the project area and the 605 Freeway, completed in 1971, bisects the project area from roughly north to south.

The majority of the project area is heavily disturbed with a groundcover of ruderal vegetation, such as horseweed (*Conyza Canadensis*), telegraph weed (*Heterotheca grandiflora*), black mustard (*Brassica nigra*), pigweed (*Chenopodium sp.*), and tumbleweed (Salsola tragus). Occasional mature native blue elderberry trees (Sambucus Mexicana) and stands of ornamental trees such as Chinese elm (*Ulmus parviflora*), gum tree (*Eucalyptus sp.*), and ash (*Fraxinus sp.*) are present.

B. CULTURAL SETTING

The following discussion summarizes our current understanding of major prehistoric and historic developments in and around Los Angeles. This is followed by a more focused discussion of poultry farming and a history of the project area itself.

Prehistoric Overview

While people are known to have inhabited southern California beginning at least 13,000 years Before Present (B.P.) (Arnold et al 2004.), the first evidence of human occupation in the Los Angeles area dates to at least 9,000 years B.P. and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. Settlements were located primarily on the coast and in the vicinity

of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3500 B.P., a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increasing population size necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through use of the circular shell fishhook on the coast and more abundant and diverse hunting equipment. Evidence for shifts in settlement patterns has been noted at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Archaeological evidence suggests that the margins of numerous rivers, marshes, and swamps within the Los Angeles River Drainage served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily trafficked travel routes.

The Late Prehistoric period, spanning from approximately 1500 years B.P. to the Spanish mission era, is the period associated with the florescence of the contemporary Native American group whom the Spanish referred to as the Gabrielino (Wallace 1955). Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange counties, the Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925) and maps produced by early explorers indicate that at least twenty-six Gabrielino villages were within close proximity to known Los Angeles River courses, while an additional eighteen villages were within reasonably close proximity to the river (Gumprecht 1999). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939[1852]). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939[1852]).

Historic Overview

Spanish explorers made brief visits to Gabrielino territory in both 1542 and 1602, and on both occasions the two groups exchanged trade items (McCawley 1996). Sustained contact with Europeans did not commence until the onset of the Spanish Period, which began in 1769 when Gaspar de Portola and a small Spanish contingent began their exploratory journey along the

California coast from San Diego to Monterey. Passing through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank near the present-day N. Broadway Bridge. Father Juan Crespi's diaries indicate that on that day they "entered a spacious valley, well grown with cottonwoods and alders, among which ran a beautiful river. This plain where the river runs is very extensive and…is the most suitable site for a large settlement" (The River Project 2001). He goes on to describe this "green, lush valley", its "very full flowing, wide river", the "riot of color" in the hills, and the abundance of native grapevines, wild roses, grizzly, antelope, quail and steelhead trout. Crespi observed that the soil was rich and "capable of supporting every kind of grain and fruit which may be planted." The river was named El Rio y Valle de Nuestra Senora la Reina de Los Angeles de la Porciuncula.

Gabrielino villages are reported by early explorers to have been most abundant along the dominant rivers of the Los Angeles Basin, including the Los Angeles, San Gabriel, and Santa Ana Rivers. Nine important villages were located within the San Gabriel Valley, including Sheshiikwwanonga, Sonaanga, 'Akuuronga , and Shevaanga in the vicinity of the modern City of San Gabriel. These four communities were close-knit, and shared their own regional dialect. The Gabrielino living in the Whittier Narrows area called themselves Kichireños, and occupied smaller settlements named 'Iisanchanga and Wiichinga whose specific locations are not known (McCawley 1996). According to the Mission records the latter community was noted to be "to the east of [the old San Gabriel] Mission on a plain closed by water on all sides" (McCawley 1996:44), a description that fits the project area and surrounding parcels well.

A string of 21 Missions were established in the years that followed the Portola expedition, the fourth being Mission San Gabriel Arcangel founded in 1771 near the present-day city of Montebello, just west of the project area. This original location enjoyed fertile soils, but was repeatedly damaged by the periodic flooding of the San Gabriel River. In 1775, the mission was moved to higher ground five miles to the northwest (Lindsey and Schiesl 1976; McCawley 1996). By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system, under the jurisdiction of Mission San Gabriel or Mission San Fernando several miles to the northwest. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson 1999). This lifestyle change also brought with it significant negative consequences for Gabrielino health and cultural integrity, however.

On September 4, 1781, twelve years after Crespi's initial visit, the El Pueblo de la Reina de los Angeles was established not far from the site where Portola and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square, surrounded by twelve houses, and a series of thirty-six agricultural fields occupying 250 acres, plotted to the east between the town and the river. By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased. Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced 47 cultigens (Gumprecht 1999).

Alta California became a state when Mexico won its independence from Spain in 1821, and Los

Angeles selected its first city council the following year. The authority of the California missions gradually declined, culminating with their secularization in 1834. Native Americans who had become dependent upon the missions were disenfranchised, and most Gabrielino neophytes either fled to the north or sought work as laborers for nearby private land owners. Former mission lands were quickly divided and granted to private citizens for use as agricultural and pastoral land (Reid 1977 [1851]).

As the possibility of a takeover of California by the United States loomed large in the 1840s, the Mexican government increased the number of land grants in an effort to keep the land in Mexican hands. More than 600 rancho grants were made between 1833 and 1846. The project area falls within the 2,042.81-acre Potrero de Felipe Lugo rancho, granted to George Morillo and Maria Romero on June 15, 1871 (California State Archives 2006).

The United States took control of California after the Mexican-American War of 1846, seizing Monterey, San Francisco, San Diego and Los Angeles with little resistance. Los Angeles soon slipped from American control, and needed to be retaken in 1847. Approximately 600 U.S. sailors, marines, Army dragoons, and mountain men converged under the leadership of Colonel Stephen W. Kearney and Commodore Robert F. Stockton in early January of that year to challenge the California resistance, which was led by General Jose Maria Flores. The American party crossed the San Gabriel River approximately four miles southwest of the project area and scored a decisive victory over the Californians, effectively ending the war and opening the door for increased American immigration (Takahashi 1980).

The rivers of the Los Angeles basin, including the San Gabriel River, flooded frequently in historic times. These unpredictable overflows became increasingly problematic as the landscape filled with ever more people in the late nineteenth and early twentieth centuries. Until January of 1868, the San Gabriel River emptied into San Pedro Bay. Massive flooding that year caused the river to cut a new, more southerly course after leaving Whittier Narrows, destroying the young town of Galatin and ultimately discharging at Alamitos Bay. The new channel gradually took on the name of San Gabriel, while the original course of the San Gabriel River came to be known as Rio Hondo upstream, and the Los Angeles River downstream (Gumprecht 1999).

While small deposits of gold had been mined previously in southern California (Guinn 1977), the discovery of gold in northern California led to an enormous influx of American citizens in the 1850s and 1860s, and these settlers rapidly displaced the old rancho families. Retired American miner Elias Jackson “Lucky” Baldwin purchased over 30,000 acres of land in California between 1875 and 1880, including Rancho Potrero Felipe Lugo (Kielbasa 1997).

The Southern Pacific Railroad extended its line from San Francisco to Los Angeles in 1876, with a spur line running just to the north of the project area parallel to Valley Boulevard (formerly Pomona Boulevard). Newcomers continued to pour into Los Angeles and the population nearly doubled between 1870 and 1880. The completion of the second transcontinental line, the Santa Fe, took place in 1886 causing a fare war which drove fares to an unprecedented low. More settlers continued to head west and the demand for real estate skyrocketed. The city’s population rose from 11,000 in 1880 to 50,000 by 1890 (Meyer 1981:45). The San Pedro, Los Angeles and

Salt Lake Railroad (later incorporated into the Union Pacific system) were built just north of the project area in 1905. During the first three decades of the twentieth century, more than 2 million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area (Gumprecht 1999).

Poultry Farming in the United States and California

Poultry Farming in the United States is an industry which has undergone rapid change over the past several decades. The business of producing poultry for sale began in a small way, but experienced remarkable growth since the first part of the 20th century. Many small early farms initially kept poultry (predominately chickens) for their own consumption, and possibly for some incidental profit. However, later farms came to view poultry as a means of livelihood. As one author put it, instead of keeping poultry, they have made the poultry keep them (Card and Nesheim 1972).

During the early 20th century the poultry industry developed to become a large part of American agriculture. Although less profitable than their chicken farm counterparts, duck farms gained popularity around this time. With a stable market to which to sell their product, namely Asian restaurants and grocers, duck farmers in the United States quickly narrowed in on the more profitable and seemingly preferred breeds for consumption, the Pekin and Asylebury (Grow 1972). The Pekin in particular, soon dominated the market and still comprises the larger part of the annual duck crop in America (Batty 1979; Grow 1972).

Like many other industries, technology was a major impetus to the growth of the poultry industry. Advances such as the large room-type incubators, which first appeared in 1922, made rapid expansion an easy matter for hatcheries. As poultry farms became larger, they also became fewer. In California for example, the number of poultry farms selling eggs decreased by 60 percent from 1959 to 1964, but total egg sales increased by nearly 52 percent. Along with the decrease in the number of farms came a geographic concentration, principally being centered in Georgia, Arkansas, Indiana, Alabama, and North Carolina (Card and Nesheim 1972).

In California, the duck producers appeared to be taking cues from the older and larger duck operations further east like Culver Duck Farms (established 1858), as well as those in Europe. While the duck market has yet to dominate poultry production in the United States in a manner similar to the chicken market, it has remained a stable, albeit smaller force in American agriculture.

Brief History of the Project Area

A review of historic USGS topographic maps (1896 and 1900 Pasadena Quadrangles and 1928 and 1948 El Monte Quadrangles) revealed that prior to the 1950's, development in the area was focused to the north of the San Gabriel River, north and west of the present project area. Early use of the project area itself appears to have been limited to the north along Valley Boulevard (formerly Pomona Boulevard) where a Southern Pacific rail station known as "Woyden" was located (Los Angeles Times, 21 March 1893:7; USGS Pasadena Quadrangle 1896). Woyden

station appears to have been situated near the present-day 605 Freeway Valley Boulevard on/off ramps. It is unclear whether the station consisted of a platform or a structure.

The first large-scale use of the project area began in 1951 with duck farming activities. The Woodland Duck Farm began in 1913 as the Ward Duck Company near the town of Petaluma in northern California. In the late 1920s, Louise Ward moved her duck farm operation to southern California on the western banks of the Rio Hondo River at the intersection of Walnut Grove Avenue and Rush Street (English 2003).

The duck farm operated at this location until Louise Ward died in 1950. After her death, the business and property went into receivership. Approximately one year later, Eigil Bahnsen, longtime employee, and Betty Beckman purchased the business and re-located the duck farm to its current location on the east side of the San Gabriel River just south of Valley Boulevard. As part of the re-location process, the Farm House and a few of the other buildings were moved to the new site via transport down the river on rollers (English 2003).

Patricia Bahnsen, daughter Elgil Bahnsen majored in animal husbandry at Cornell University and later married Richard (Dick) Woodland, who then joined the family business. Soon afterward, the Ward Duck Company became Woodland Duck Farm (Bush 1968)

In 1968, Woodland Duck Farm was one of only two duck farms in California. Processing ducks under the "Buddhist Exemption," a federal health regulation in keeping with the religious custom of retaining heads and bills, Woodland Duck Farm became a principal supplier of ducks to Los Angeles' Chinatown. Woodland Duck Farm also sold their ducks nationally and internationally through Poppy Food Company, which was based in Los Angeles. By 1984, Woodland Farms was the largest duck farm in the West, raising at least one million ducks per year. In 1998, the farm was sold to Indiana-based Maple Leaf Farms. Operation of the Duck Farm ceased in approximately 2001. (LAT 1984)

IV. RESEARCH METHODS

The cultural resources investigation for this project included archival and other background research, and a cultural resources survey of the proposed project area.

A. ARCHIVAL RESEARCH

A records search of the project area was conducted by Sara Dietler, B.A. on June 12, 2006 at the South Central Coastal Information Center housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within a ½-mile radius of the proposed project area. The archival research involved review of archaeological site records, historic maps and historic site and building inventories.

The records search revealed that a total of 23 cultural resource investigations were previously conducted within a 1/2 -mile radius of the project (Table 2). Sixteen of these consisted of survey, assessment, or survey and assessment, four consisted of literature searches, one was conducted in preparation of an Environmental Impact Report, one dealt with pavement rehabilitation, and another was associated with a Phase III project. Three of these projects encompass a portion of the present project area (see Table 2). Less than 5% of the project area has been previously surveyed.

Table 2. Previous Surveys Conducted within 1/2 Mile of the Project Area

Author	Report # (LA-)	Description	Date
Adams, Andrea	294	A Preliminary Archaeological Literature Search for the Community Development Plan	n.d.
Ahlering, Michael L.	331	Report of Archaeological Survey: Tract #30939 County of Los Angeles, California	1977
Ashkar, Shahira	4835	Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Riverside, Los Angeles and Riverside Counties	1999
Brechbiel, Brant A.	4117	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: LA 009-11 Near Industry, Los Angeles County, California	1998
Bonner, Wayne H.	7236	Cultural Resources Records Search Results and Site Visit for Cingular Site Candidate SV-047-01 (Sonoco), 166 North Baldwin Park Boulevard, Industry, Los Angeles County, California	2005
Boxt, Matthew et al.	1220**	An Archaeological Survey and Impact Assessment of the Valley Blvd. Redevelopment Project, Located in the City of Industry, Los Angeles County, California	1983
Chamberlaine, Pat and Jean Rivers-Council	2970	Cajon Pipeline Project Draft Environmental Impact Statement Environmental Impact Report	1992

Author	Report # (LA-)	Description	Date
De Barros, Philip	2894	Cultural Resources Survey of Area of Potential Effects of Proposed Dam Near Drop Structure No. 13 Within the San Gabriel River, Los Angeles County, California	1993
Duke, Curt	6279	Cultural Resource Assessment Cingular Wireless Facility No. VY 131-03 Los Angeles County, California	2001
Duke, Curt	6305	Cultural Resource Assessment Cingular Wireless Facility No. 132-01 Los Angeles County, California	2001
Duke, Curt	6310	Cultural Resource Assessment Cingular Wireless Facility No. 11015A-01 Los Angeles County, California	2002
Maki, Mary	3070	A Phase I Cultural Resources survey of 0.85 Acres at 13542 Valley Boulevard Los Angeles County, California	1994
Maki, Mary K.	3785	A Phase I Cultural Resources Survey of 0.19 Acres North-Northwest of Bunker Avenue and Herb Avenue Intersection Los Angeles County, California	1994
Maki, Mary	4889	Negative Phase I Archaeological Survey of Approximately 4.02 acres	2000
Maki, Mary	6809	Negative Phase I Archaeological Survey of 4.47 Acres for the Bassetdale Project, Unincorporated La Puente, Los Angeles County, California	2003
McKenna, Jeanette A.	2586	Phase I Cultural Resources Investigations of the Proposed Crossroads Business Park, City of Industry, Los Angeles County, California	1992
McKenna, Jeannette A.	2882	Cultural Resources Investigations, Site Inventory, and Evaluations, the Cajon Pipeline Project Corridor, Los Angeles and San Bernardino Counties, California	1993
Scientific Resource Surveys	3295	A Cultural and Paleontological Investigation of the Proposed San Jose Creek Water Reclamation Plant Phase III Project Site, Los Angeles County	1988
Smith, Philomene and Adam Sriro	4880**	Pavement Rehabilitation Along Route 605 Within the Cities of Long Beach, Lakewood, Cerritos, Downey, Pico Rivera, Santa Fe Springs, Whittier, City of Industry, Baldwin Park and Irwindale	2000
Storey, Noelle	4883	Negative Archaeological Survey Report – Highway Project Description	2000
UltraSystems	4527	Archaeological Survey of Crossroads parkway Interchange with the Pomona Freeway	1977
UltraSystems	4528	Historic Property Survey Crossroads Parkway Interchange Route 60 City of Industry, County of Los Angeles	1979
Wlodarski, Robert J.	3823**	Literature Search for Property Located Along the South Side of Valley Boulevard, East of the San Gabriel Freeway, West of Turnbull Canyon Road, in the City of Industry, County of Los Angeles, California	1981

**Indicates study overlapping with project area

The records search indicated that two archaeological sites have has been previously recorded within 1/2- mile of the project area (Table 3). One of these is a historic resource designated as P-186112, and includes two sections of the Union Pacific Railroad. The northernmost of the two lines (noted on the USGS quadrangle as Southern Pacific Railroad, is located immediately adjacent the northeastern boundary of the project area. This resource was recorded by S. Ashkar

in 1999 during an archaeological survey conducted in advance of a proposed fiber optic line. The railroad was constructed during the latter half of the 19th century to connect southern states with the Pacific Ocean (Ashkar 1999). In addition to being associated with several important historical figures, the railroad facilitated the transport of goods to ports and population growth on the west coast. Records indicate the railroad has been found eligible for the National Register of Historic Places (Ashkar 1999). The Southern Pacific station known as "Woyden" appears on the 1896 historic topographic map directly along this railroad alignment within the northern portion of the present project area.

The second previously recorded archaeological resource within 1/2-mile of the project area is designated CA-LAN-136. Site CA-LAN-136 consists of a 50 ft by 50 ft midden with associated human burials. The site was recorded by Chester King (1967) when it was unearthed during construction activities. Artifacts recovered include pestles, a core, and bone rings. King hypothesized that the site was a Late Period village. The site is approximately ¼- mile southeast of the project area. The area was re-surveyed in by Matthew Boxt (1983). No evidence of the site was found at that time.

Table 3. Previously Recorded Archaeological Sites within 1/2 Mile of the Project Area

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Number	Description	Date Recorded
136			Midden with associated burials	3/1967
	186112		Union Pacific Railroad	36/1999

Additional Research

Additional research was conducted at the Los Angeles Public Library and the library at University of California, Davis. Research topics included poultry production, duck farming, Ward Duck Company, and Woodland Duck Farm. Although information regarding duck farms and their evolution in the United States and California was available, the majority of reference material related to chicken farming.

No specific information regarding the Ward Duck Company and the Woodland Duck Farm was obtained as a result of the library research. Sources that did prove useful in providing information regarding the Ward Duck Company and Woodland Duck Farm were obtained in local newspaper articles and from site records and the previous study of the Ward Residence (English, 2003).

Aerial photographs were obtained of the project area. These photos were taken after the 605 Freeway had been constructed. Although undated, the presence of the 605 Freeway in the photographs suggests that they may date from the late 1960's or early 1970's. The earlier aerial photographs depict duck farm buildings and structures, presumably as it appeared while in

operation. The later aerial photographs depict some of the buildings and remnants of portions of the duck farm that had been removed. The most recent aerials (Figure 4) show that additional buildings and structures had been removed, leaving the property in what appears to be the same condition as surveyors observed when conducting the cultural resources survey.

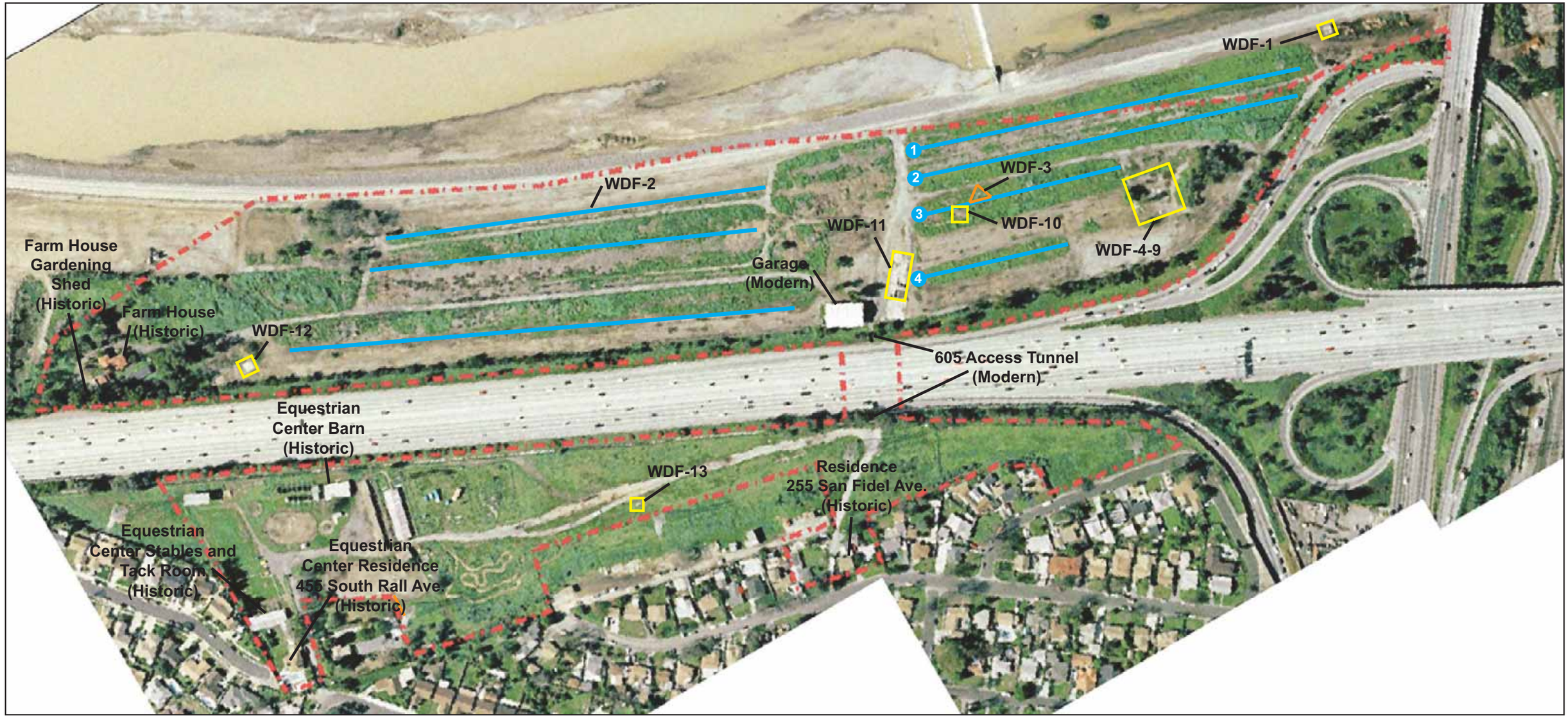
B. CULTURAL RESOURCES SURVEY

A cultural resources survey was conducted by Sara Dietler, B.A. and Linda Kry, B.A. on December 12 and 13, 2006. The purpose of the survey was to identify any archaeological or historical resources within the project area. The survey was conducted on foot in parallel transects spaced 10 to 20 meters. Particular attention was paid to areas of high ground surface visibility, rodent burrows and road cuts that had exposed buried sediments, and any buildings and structures, or remnants thereof. Archaeological and historical resources encountered during the survey were photographed and documented on Department of Parks and Recreation (DPR 523) forms.

The present project (see Figure 3 for Phase I Concept Plan) includes two parcels which are described as the North Parcel and the East Parcel. The parcels are located to the north of Workman Mill Road, northwest of Avocado Creek and are bisected by the 605 Freeway.

The North Parcel is a largely vacant, linear segment of land between the San Gabriel River and the 605 Freeway, with Avocado Creek on the south edge and Valley Boulevard at the northern edge. The plot is bisected by several dirt roads running both north/south and east/west, most of these appear to be access roads for the former Duck Farm. The majority of the Duck Farm has been removed from the site and the land has become somewhat overgrown with vegetation. The property is heavily disturbed as a result of the Duck Farm operations, and its subsequent demolition. Due to the apparent periodic grubbing, most of the surface on the North Parcel has a 90% rate of visibility. With the exception of the equestrian center buildings and one foundation, all of the cultural resources were recorded on this parcel. No evidence of the former railroad station of Woyden was observed. Since the exact location of the station is unknown, it may be outside of the boundaries of the Phase I project area or may have been destroyed by the development of the Duck Farm.

The East Parcel is approximately 60% vacant, while the remaining 40% is occupied by an equestrian center. The equestrian center is located on the southern side of the parcel and Southern California Edison power lines run though the parcel. A dirt road runs from the south at the equestrian center to meet up with Proctor Street and the 605 Freeway tunnel which leads to the North Parcel. The vacant portion of the parcel is apparently routinely mowed and visibility was nearly 100%. The slope is 0° on the parcel and the soil type noted is a sandy alluvium with gravel. The portion of the parcel to the north of Proctor Street has a slope of 45° along the eastern edge, leading up to retaining walls behind the residential developments that border the property on the east side. Modern trash dumping was noted behind the houses and on the hill side. A single foundation was noted on this parcel. It is unknown whether the foundation is associated with the former duck farm.



	Well/Pump Feature	WDF-#	Woodland Duck Farm Recorded Archaeological Feature
	Foundation		Project Boundary
#	Outfall		Watering Channels

Figure 4
Historical and Archaeological Features

Historic Architectural Resources

A total of seven buildings and one tunnel were identified by surveyors. Of these, six of the buildings, the Farm House, Farm House gardening shed, equestrian center stable and tack room, equestrian center barn, equestrian center residence, and the residence located at 255 San Fidel Avenue, are of historic age. One building, identified as the garage and the tunnel are not of sufficient age to be considered historic resources. Each of the historic-era buildings was photographed and recorded on appropriate Department of Parks and Recreation (DPR 523) forms.

Farm House (Louise Ward Residence) (12936 Valley Boulevard, La Puente)

The Farm House, (Plate 1) which was originally evaluated in 2003, lies on the southeastern end of the North Parcel on the project area. It is located at 12936 Valley Boulevard, just to the west of the 605 Freeway. This two-story building is a Spanish Eclectic Revival style residence of wood frame and stucco construction. The roof features Spanish clay S-shaped roof tiles, slightly overhanging eaves, exposed rafter tails, and an exterior-mounted brick chimney with a decorative chimney top. The eastern façade displays a combination of squared casement and sash windows, a single-entry door topped by a shed style roof, and an exterior stairway with a decorative wrought iron railing. An inset balcony is present on the second story of this facade. The western elevation features the main entrance, which is positioned within a projecting bay and lead to by circular stained concrete stairs. Positioned just south of the stairs is a temporary wooden ramp which also leads to the main entrance. This elevation also features squared casement windows, one of which is currently covered with plywood, and an oval window covered by a decorative wrought iron grill. An inset rectangular entry (currently covered with plywood) and a combination of casement and sash windows is present on the southern facade. A 3-car garage (later addition) is present on the southeastern side of this residence. The northern elevation features three arched windows on the first story, and two double doors which lead out onto balconies with wrought iron railings on the second story. This residence, originally constructed ca. 1929, sits upon a concrete foundation (English 2003).

Plate 1. Farm House-Northern Façade



Farm House Gardening Shed

The Farm House gardening shed (Plate 2) is a dilapidated shed approximately 25 feet from the south side of the Farm House on the North Parcel. The south wall of the shed is adjacent to the chain link fence on the south side of the Farm House property. The shed is of wood frame construction with corrugated aluminum siding and a dirt floor. The shed features a double door, garage-type entrance on its northern façade and a single wooden door on its southern façade. The shed is currently unused, abandoned and in disrepair.

Plate 2. Farm House Gardening Shed-Northern Façade



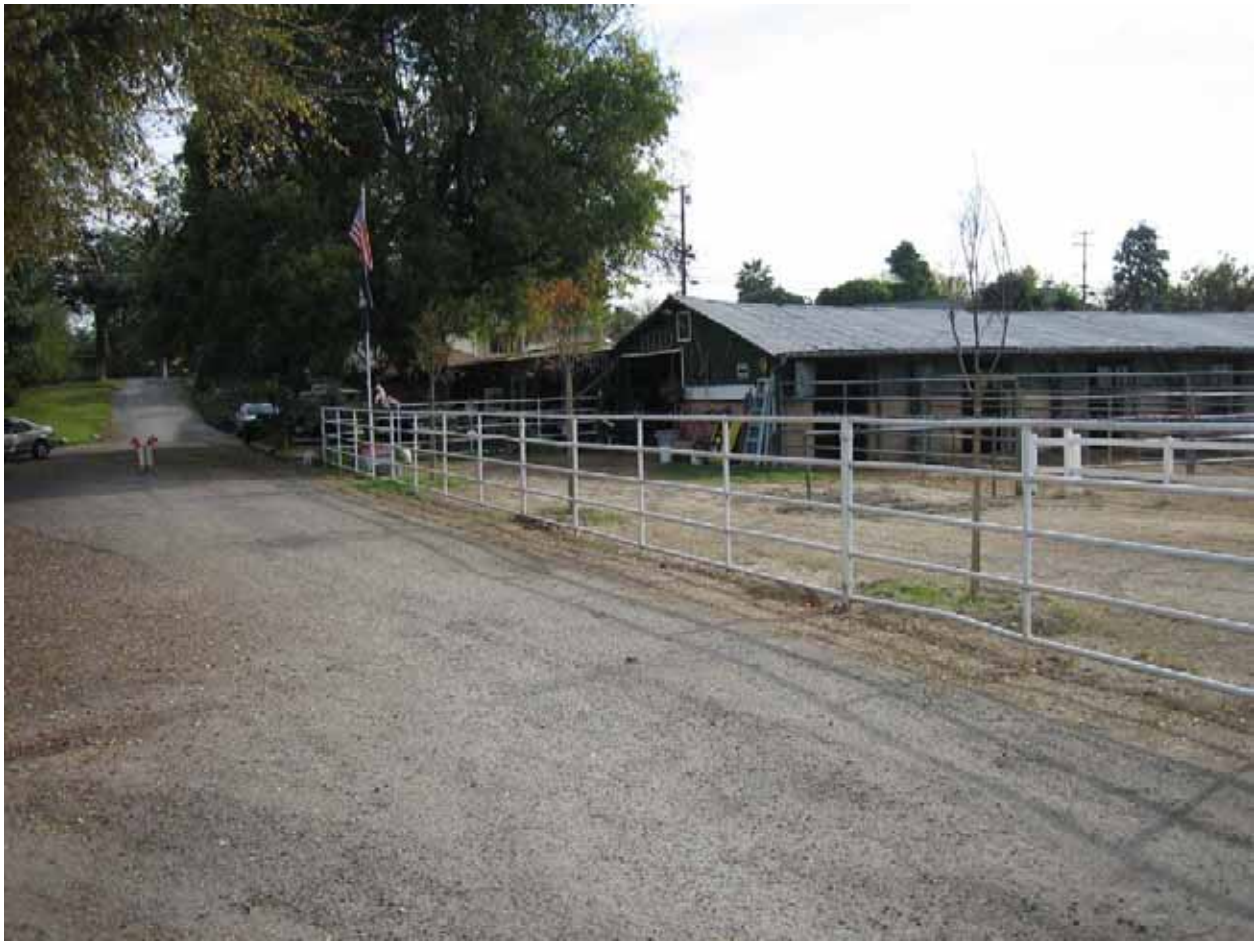
Equestrian Center Residence (455 South Rall Avenue, La Puente)

The Equestrian Center consists of a house and several outbuildings including a tack room, stall buildings, show rings and a barn on the East Parcel of the project area. The Equestrian Center Residence is located at 455 South Rall Avenue, the entrance gate to the center lies at the intersection of Rall Avenue and South Obar Drive. A paved driveway leads down from Rall Avenue to the house and the equestrian facility. The residence is a two story, asymmetrical, vernacular building with hipped roof featuring composition tiles, closed eaves, and an interior-mounted brick chimney. The windows on this residence are a combination of sash and aluminum sliders. The building sits upon a concrete foundation.

Equestrian Center Stable and Tack Room

The stable and tack room (Plate 3) are adjacent to the west side of the equestrian center residence on the east parcel. The equestrian center stable and tack room is a single story L-shaped vernacular building with corrugated metal-covered gable roof. An open "breezeway" which pierces the building is covered by the principal roof. The exterior of this building features a combination of concrete and vertical wood siding. Broken windows, possibly hopper-style, are located on the southern façade. This building sits upon a concrete foundation.

Plate 3. Equestrian Center Stable and Tack Room Northern and Western Façades



Equestrian Center Barn

The equestrian center barn is located northwest of the equestrian center residence and stable and tack room on the east parcel. The barn is approximately 25 feet to the west of the paved driveway. The barn is a rectangular shaped, wood-frame building with a monitor roof and moderate eave overhang. Six regularly spaced openings are positioned on the eastern and western facades.

Residence (255 San Fidel Avenue, La Puente)
This residence is located at the northwest corner of San Fidel Avenue and Proctor Street. Proctor Street continues west past the residence to the gated entrance to the East Parcel. This residence is a story-and-a-half, single family residence with a cross-gable roof and slightly overhanging eaves. The front-facing gable displays an aluminum sliding window and louvered vent. Some one-over-one sash windows are also present on this building. A partial-width porch, covered by the principal roof, is supported by simple wooden posts. This stucco-covered residence sits upon a concrete foundation.

Archaeological Resources

One archaeological site was identified as a result of the survey and assigned the temporary designation of "Woodland Duck Farm Site". The site consists of a series of archaeological features related to the Woodland Duck Farm (circa. 1951 to 2001). Archaeological features were assigned the designation of "WDF" (Woodland Duck Farm) and numbered consecutively. Each feature was photographed and the site was recorded on appropriate Department of Parks and Recreation (DPR 523) forms. Features identified include a shed, a watering system, an associated well or pump and eight cement slab foundations. Debris consisting of cement foundations, aluminum siding, two probable duck barn doors and wooden planking, likely resulting from the demolition of the duck farm following its abandonment in 2001, was noted throughout this parcel.

Duck Farm Shed (Feature WDF-1)
Feature WDF-1 is the remains of a shed on the northern-most portion of the North Parcel of the project area, approximately 70 meters south of the Valley Boulevard overpass and east of the San Gabriel River bank. This shed appears on a historic aerial photograph of the project area (historical aerial photographs: undated; presumed post-1968), and may have served as storage for the duck farm beginning in the 1950s. This single-story three-sided shed is of a wood frame construction with aluminum siding, cement floor and shed roof. The sides of the shed occupy only half of the cement slab, the remainder of which extends out from the open (east) side. The building measures 19.42 feet in length and 8.13 feet in width and sits atop a slab measuring 19.42 feet in length and 17.66 feet in width. Hinges are present along the walls of the open side suggesting doors may have once covered the opening. No indications of plumbing or electrical utilities were observed. The shed is presently abandoned, collapsing, and covered with graffiti.

Duck Farm Watering System (Feature WDF-2)
Feature WDF-2 (Plate 4) is a series of cement-lined linear watering channels and outfalls or diversion boxes located on the North Parcel. Historic aerial photographs indicate the channels served to water duck flocks living on the farm. Portions of seven segments of the watering channels were observed by archaeologists during the survey on the west side of the 605 Freeway. The channels run parallel to one another and are oriented from roughly north to south, as depicted on the historic aerial photographs. Four outfalls or diversion boxes, likely used to manipulate the flow of water, were observed in association with the channels just north of the Proctor Street dirt road. One of the diversion boxes is marked with an inscription that reads "Mv DEC-1-58" - presumably the date of construction. The channels themselves have dimensions on

average of approximately 64 inches maximum width, including the lip of the channel, 6.50 inches wide at the base of the channel, and 5 inches in depth.

Plate 4. Channel Outfall or Diversion Box with Date to North



Duck Farm Well/Pump (Feature WDF-3)

Feature WDF-3 is a partially above ground well/pump feature located on the North Parcel. This feature consists of a semi-subterranean cement pipe that is situated perpendicular to a cement slab. Interior and exterior metal piping is also associated. The cement pipe measures 7.71 feet in height and 2.92 feet in diameter. It is located to the north of the Proctor Street dirt road extension and west of the 605 Freeway. This feature is likely associated with the watering system recorded as WDF-2.

Duck Farm Foundations (Features WDF-4 through -13)

Features numbered WDF-4 through -13 are a series of foundations associated with the duck farm. The foundations numbered WDF-4 through -9 are of cement slab construction and are located southwest of the Valley Boulevard 605 Freeway southbound on-ramp. The foundations are shaded by a grove of ornamental trees and are reportedly the remnants of a complex of duck farm employee residences (personal communication, Frank Simpson December 12, 2006). These buildings are also visible on historic aerial photographs.

WDF-4 lies approximately 165 feet from the end of an asphalt driveway that runs east/west from the main dirt access road. The slab dimensions are 30.3 feet by 15.6 feet. WDF-5 is 55 feet due north from the center of WDF-4, it is an irregularly shaped pad measuring 25 feet by 18 feet. WDF-6 is 16 feet east of WDF-5 and the pad measures 26 feet by 16.5 feet. An L-shaped slab designated WDF-7 is located 80 feet north of WDF-5 and measures 26 feet in length by 3.3 feet in width on the upper portion of the "L" and 20 feet in length by 3.3 feet wide on the lower portion of the "L". Debris consisting of wood, cement, PVC pipe, and a "Clanky Chocolate Flavor Syrup" plastic bottle with a date of 1963 is scattered near this slab. Sandstone paving stones are still attached to one end of the slab. WDF-8 is located adjacent the east side of the north/south dirt access road. This foundation measures approximately 40 feet in length by 23 feet in width and is made up of several individual pieces of cement slab. WDF-9 is an irregularly shaped foundation with one course of cinderblock on the northeast corner and measures 13 feet in length by 10 feet in width. The WDF-10 is a cement slab foundation located in close proximity to a watering channel and appears consistent with a duck barn or shed, many of which appear on the historic aerial photographs. It is located to the north of the Proctor Street dirt road extension and west of the 605 Freeway and is 6.5 feet wide by 8 feet long. WDF-11 is a large irregularly shaped raised cement foundation with mechanical elements visible under the foundation floor. This feature is located directly across the Proctor Street dirt road opposite the garage building and may be the remnants of a duck farm processing facility or hatchery. The maximum length of this foundation is 165 feet with a width of 30 feet. WDF-12 is a cement slab foundation located north of the Farm House, outside of the gates. This foundation is reportedly a remnant of an additional residence associated with the duck farm (personal communication, Frank Simpson, December 12, 2006). This slab measures approximately 23 feet in length by 16.5 feet in width. WDF-13 is a cement slab foundation located to the north of the equestrian center on the east side of the main dirt road in this area. The slab measures 16.5 feet in length by 8 feet width. There is no indication from the historic aerial photographs as to the use of this former building.

V. RESULTS AND RECOMMENDATIONS

The following discussion focuses on (1) assessing the California Register of Historical Resources eligibility of the resources identified as a result of the field survey, and (2) assessing the potential for finding buried cultural resources within the project area.

A. RESOURCE ELIGIBILITY

A cultural resource is considered "historically significant" under CEQA if the resource meets one or more of the criteria for listing on the California Register of Historical Resources. The California Register of Historical Resources was designed to be used by state and local agencies, private groups, and citizens to identify existing cultural resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852). A resource is considered significant if it:

A. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or

B. is associated with the lives of persons important in our past; or

C. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

D. has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological Resources

Woodland Duck Farm Site

The former Woodland Duck Farm operated at the proposed project area for a roughly 50-year period between 1951 and 2001. Following the farm's closure, the majority of buildings associated with the farming operation were razed. Presently only remnants of the former farm remain, including water conveyance channels, a well/pump feature, and a series of building foundations. Historic research conducted in connection with the Woodland Duck Farm failed to reveal any connections the farm might have had to important events or people (CRHR Criteria 1 and 2). As the Woodland Duck Farm Site consists of remnants of buildings and structures that are dilapidated and in disrepair, the site has a limited ability to reveal any characteristics of a distinctive type or style of construction (CRHR Criterion 3). Similarly, because of the previous loss of integrity, the remnants of the duck farm site are unlikely to yield information important in history (CRHR Criterion 4).

Historic Architectural Resources

Farm House (Louise Ward Residence) (12936 Valley Boulevard, La Puente)

The Farm House, which sits upon the Woodland Duck Farm property, was constructed for Louise Ward sometime in the mid to late 1920s and was moved to its present location in 1951 when the duck farm fell under new ownership. Although the residence has undergone various alterations, most were done to the rear facades. Furthermore, the alterations were constructed in a sensitive manner and compatible style. The residence still retains the distinctive architectural characteristics that mark it a good example of the Spanish Eclectic Revival style. Although it has been moved, and consequently lost the integrity of its original setting and location, the residence itself still retains enough integrity of workmanship, materials, feeling and association to convey its significance (external characteristics) under Criterion 3 of the California Register of Historic Resources (CRHR).

Research did not indicate that this building was associated with any events or persons considered important in local or statewide history (CRHR Criteria 1 and 2). Because no building permits have been found for this residence, it is unknown if a prominent architect or builder was associated with its construction. This type of building is well documented in both written and visual sources, and does not appear likely to yield important primary information on historic construction techniques or technology (CRHR Criterion 4).

Farm House Gardening Shed

This shed may have been one of the additional buildings moved in 1951 when the Ward residence was moved to this property. This building is a vernacular structure without distinguishing architectural or engineering characteristics (CRHR Criterion 3). It does not appear to be significantly associated with events or persons considered important in California history (CRHR Criteria 1 and 2). This building style is well represented in California and does not appear likely to yield important primary information on historic construction techniques or technologies (CRHR Criterion 4). The farm house gardening shed does not appear eligible for listing on the CRHR.

Equestrian Center Stable and Tack Room

The architectural style of the equestrian center stable and tack room suggests it was constructed during the mid-twentieth century, perhaps between the late 1940s and the 1950s. This building is a vernacular structure without distinguishing architectural or engineering characteristics (CRHR Criterion 3). It does not appear to be significantly associated with events or persons considered important in California history (CRHR Criteria 1 and 2). This building style is well represented in California and does not appear likely to yield important primary information on historic construction techniques or technologies (CRHR Criterion 4). The equestrian center stable and tack room does not appear eligible for listing on the CRHR.

Equestrian Center Barn

This architectural style suggests the barn was constructed during the mid-twentieth century, perhaps between the late 1940s and the 1950s. This building is a vernacular structure without distinguishing architectural or engineering characteristics (CRHR Criterion 3). It does not

appear to be significantly associated with events or persons considered important in California history (CRHR Criteria 1 and 2). This building style is well represented in California and does not appear likely to yield important primary information on historic construction techniques or technologies (CRHR Criterion 4). The equestrian center barn does not appear eligible for listing on the CRHR.

Equestrian Center Residence (455 South Rall Avenue, La Puente)
The equestrian center residence was constructed between 1946 and 1949. This building is a vernacular structure without distinguishing architectural or engineering characteristics (CRHR Criterion 3). It does not appear to be significantly associated with events or persons considered important in California history (CRHR Criteria 1 and 2). This building style is well represented in California and does not appear likely to yield important primary information on historic construction techniques or technologies (CRHR Criterion 4). The equestrian center residence does not appear eligible for listing on the CRHR.

Residence (255 San Fidel Avenue, La Puente)
The residence located at 255 San Fidel Avenue was constructed in 1951. Although not much information is known about the history of this residence, it does not appear to meet any of the eligibility criteria for listing on the CRHR. This building is a vernacular structure without distinguishing architectural or engineering characteristics (CRHR Criterion 3). It does not appear to be significantly associated with events or persons considered important in California history (CRHR Criteria 1 and 2). This building style is well represented in California and does not appear likely to yield important primary information on historic construction techniques or technologies (CRHR Criterion 4).

B. RECOMMENDATIONS

Archaeological site "Woodland Duck Farm" was photographed and documented through the creation of an archaeological site record in the course of the current investigation. The archaeological features in combination with the historic aerial photographs allow for the full recordation of the former Woodland Duck Farm. These records will be placed on file at the SCCIC. This recordation is sufficient to mitigate the impact of the proposed project on this resource, reducing the effects to a less than significant level.

As currently planned, the proposed project includes the retention and re-use of the Farm House (Ward Residence). This building appears eligible for listing on the CRHR under Criterion 3, as a good example of the Spanish Eclectic Revival style. The project proposes to rehabilitate the exterior of the Farm House which will serve as a park Visitor and Interpretive Center. The exterior rehabilitation of the residence shall adhere to the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings.* The exterior rehabilitation shall be conducted under the general direction of a qualified historic architect. In addition, as the project proposes, the Farm House Visitor and Interpretive Center shall include a cultural element that features the historic use of the park as a duck farm.

Ground disturbing activities will take place as part of the proposed project. In the event any archaeological materials other than building foundations or water conveyance channels, described herein, associated with the Woodland Duck Farm, are encountered during earthmoving activities, the construction contractor shall cease activity in the affected area until the discovery can be evaluated by a qualified cultural resources specialist (archaeologist) in accordance with the provisions of CEQA Section 15064.5. The archaeologist shall complete any requirements for the mitigation of adverse effects on any resources determined to be significant and implement appropriate treatment measures.

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1928 El Monte Quadrangle Map, 1:24,000. Los Angeles County, California.
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APPENDIX A
RESUMES OF KEY PERSONNEL

MONICA STRAUSS
Project Archaeologist

SUMMARY

Ten years of experience in California archaeology

Trained in National Historic Preservation Act, Section 106 compliance

Directs field and literature research of prehistoric and historic southern California sites

Authors technical reports in support of CEQA and Section 106 compliance

Experience with excavation of complex coastal shell midden sites

EDUCATION

MA, Archaeology (Honors), California State University, Northridge, 2001

BA, Anthropology (Honors), California State University, Northridge, 1996

AA, Humanities, Los Angeles Pierce College, Woodland Hills, 1994

CERTIFICATIONS

Register of Professional Archaeologists

AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Monica Strauss is a project archaeologist with experience in cultural resources management and has participated in numerous archaeological investigations throughout southern and Baja California and the Channel Islands. In addition to having earned a master's degree, Ms. Strauss has worked in the field of archaeology since 1995. She has experience in prehistoric site survey and excavation, historic architectural survey, record searches, general literature research, and the preparation of cultural resources-related documents. Her role as laboratory assistant with the Northridge Center for Public Archaeology as well as her professional experience as an independent consultant have allowed her to hone her skills in the areas of shell, faunal, lithic, and archaeo-botanical analysis, with a special emphasis on milling equipment.

Ms. Strauss' dedication to the field has been exemplified by her 2-year appointment as undergraduate advisor in the Anthropology Department at California State University, Northridge where she directed and encouraged students in their academic and professional endeavors.

REPRESENTATIVE EXPERIENCE

Central Los Angeles High School #9, Los Angeles, CA
Project Director
CLIENT: Los Angeles Unified School District
Currently directing a staff of ten archaeologists in the data recovery of archaeological materials in connection with a 19th century cemetery in downtown Los Angeles. Project has included construction monitoring, excavation and extensive historic research pursuant to CEQA and Health and Safety regulations.

Hellman Ranch Monitoring, Orange County, CA
Field Director
CLIENT: City of Seal Beach
Directed large-scale excavation and monitoring program under the terms of a Mitigation Plan. Coordinated twenty archaeological field personnel and worked closely with a staff of eight Native American monitors and construction crews. Field work included heavy-equipment monitoring, excavation of complex shell midden deposits and human remains, wet screening and artifact analysis.

Home Depot Monitoring – Lake Elsinore, Riverside County, CA
Project Director
CLIENT: Twining Laboratories, Fresno
Directed archaeological monitoring of Caltrans road-widening in vicinity of historic cemetery. Currently preparing negative report of findings. Coordinated with Caltrans.

Van Norman Reservoir Monitoring, Los Angeles County, CA
Project Director
CLIENT: City of Los Angeles, Department of Water and Power
Directed archaeological monitoring of geo-technical boring activities in the reservoir complex. Provided daily oversight of monitors and regular reports to client.

MONICA STRAUSS

Public Safety Facilities Master Plan, Los Angeles County, CA
Project Director
CLIENT: City of Los Angeles, Department of Public Work
Directed a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Project work involved an extensive investigation of the area during the cities' early pueblo years and specifically the Zanja Madre irrigation system. Prepared technical report with findings and recommendations for further work, pursuant to CEQA requirements.

San Clemente Island, Los Angeles County, CA
Project Director
CLIENT: U.S. Navy, Southwest Division
Designed research strategy and directed testing program in strict accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. Authored comprehensive technical report which considers the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluates the sites for eligibility for the National Register.

Ivy Street Bridge, Murrieta, CA
Project Director (Cultural Resources Assessment)
CLIENT: T.Y. Lin International for the City of Murrieta
Currently conducting Extended Phase I study in compliance with Section 106 review. Designing research strategy, directing testing program, coordinating with Native American groups, and conducting evaluation pursuant to Caltrans guidelines.

Alhambra 127, County of Los Angeles, CA
Project Director (Cultural Resources Assessment)
CLIENT: City of Alhambra
Conducted archival research in support of cultural resources assessment pursuant to CEQA requirements. Authored cultural resources technical section of Mitigated Negative Declaration.

Fire Station No. 13, Los Angeles, CA
Project Director
CLIENT: City of Los Angeles
Conducted archival research and historical architectural field survey in support of cultural resources assessment pursuant to CEQA requirements. Co-authored technical report.

Sepulveda Boulevard Reversible Lane, Los Angeles, CA
Project Director
CLIENT: City of Los Angeles
Directed built environment field survey and conducted archival research in support of cultural resources assessment in compliance with Section 106 and CEQA. Co-authored technical reports and consulted with Caltrans regarding effects to historical resources.

Lakewood Boulevard, Downey, CA
Project Director (Cultural Resources Assessment)
CLIENT: City of Downey
Directed field work and research in support of cultural resources assessment pursuant to CEQA requirements. Authored technical report.

MONICA STRAUSS

Lake Hodges, San Diego County, CA
Research Assistant
CLIENT: San Diego County Water Authority
Conducted study of groundstone tool collection and authored analytical report of findings.

Mid City Police Station, Los Angeles, CA
Project Director
CLIENT: City of Los Angeles, Bureau of Engineering
Managed research and field survey for architectural evaluation of historic-era structure and prepared technical report in compliance with CEQA.

Haiwee Dam, Lone Pine, CA
Field Archaeologist
CLIENT: City of Los Angeles, Department of Water and Power
Participated in archaeological field survey involving the identification and recording of prehistoric and historic archaeological sites and structures in preparation for the construction of a new dam.

Gateway Cities, Los Angeles County, CA
Project Director
CLIENT: County of Los Angeles, Department of Public Works
Conducted 28 records searches and reported on findings, including site surveys, previously-recorded archaeological sites, and historic structures.

Riverside OHV
Research Assistant
CLIENT: State of California
Conducted field reconnaissance and documented historic-era Lockheed facility.

Del Amo Blvd., Torrance, CA
Project Director (Cultural Resources Assessment)
CLIENT: City of Torrance
Conducted records search, archaeological field survey, historic structures documentation, historic research, and coauthored cultural resources assessment documentation in compliance with Section 106.

Arroyo Seco Bike Path, Los Angeles, CA
Project Director
CLIENT: County of Los Angeles, Department of Public Works
Managed all aspects of Section 106 review in accordance with Caltrans Cultural Resources Environmental guidelines. Orchestrated the research strategy, directed the field teams, and prepared cultural resources assessment documentation for approval by Caltrans and FHWA and cultural resources section for Mitigated Negative Declaration.

Hellman Ranch Monitoring, Orange County, CA
Field Archaeologist/Research Assistant
CLIENT: City of Seal Beach
Conducted archaeological monitoring and excavation of Native American burials discovered during construction of the Heron Point Development, a large housing development owned by John Laing Homes. Conducted research of prehistoric burials throughout southern California and performed comparative evaluation. Conducted in-depth analysis of large groundstone tool collection.

MONICA STRAUSS

Malibu Creek State Park, Malibu, CA
Research Assistant
CLIENT: California Department of Parks and Recreation
Conducted records search and general research of prehistoric and historic resources within the park in preparation of General Plan. Prepared historical overview and report identifying the nature and location of cultural resources. Directed Native American consultation.

Los Angeles Reservoir, San Fernando, CA
Field Archaeologist/Research Assistant
CLIENT: City of Los Angeles, Department of Water and Power
Conducted records search and intensive archaeological survey of portions of the Van Norman Archaeological District. Conducted research on the history of the dam, reservoir, and aqueduct complex and prepared historical overview for portion of the report.

Ambassador College, Pasadena, CA
Research Assistant
CLIENT: Worldwide Church of God
Conducted intensive research at both libraries and museums on the history of Pasadena and the development of the city's "cultural fabric." Assisted in the preparation of posters for presentation to clients and at public meetings.

Chapman College, City of Orange, CA
Field Assistant/Research Assistant
CLIENT: Chapman University
Assisted with the in-field documentation of historic structures. Consulted historic databases and libraries to define the historical evolution of the neighborhood and the design of specific buildings.

Vermont Avenue Relief Sewer, Los Angeles, CA
Project Director
CLIENT: City of Los Angeles, Bureau of Engineering
Conducted Phase I Archaeological Evaluation including records search, historic research, intensive site survey, and preparation of Technical Report.

Montrose Settlements Restoration Program, Los Angeles and Orange Counties, CA
Research Assistant
CLIENT: The National Oceanic and Atmospheric Administration
Conducted research and prepared report on the prehistory and history of the region along the coastlines of Los Angeles and Orange Counties and the eight Channel Islands with special attention to areas of cultural resource concentrations.

LMXU, San Diego County, CA
Research Assistant
CLIENT: Confidential
Conducted microlevel analysis of groundstone tool collection.

Cross Valley Connector, Los Angeles County, CA
Research Assistant
CLIENT: Caltrans
Conducted records search to identify prehistoric and historic cultural resources within the project area. Instigated contact with Native American groups to document concerns.

MONICA STRAUSS

Taylor Yard, Los Angeles County, CA
Research Assistant
CLIENT: California Department of Parks and Recreation
Conducted records search to identify cultural resources within the project area.

I-5 Manchester, San Diego County, CA
Research Assistant
CLIENT: Dokken Engineering for the City of Encinitas
Compiled profiles on properties within project area using property description database.

North Baja Pipeline Project, Ehrenberg, Arizona to Mexican Border
Field Archaeologist
CLIENT: Pacific Gas and Electric
Excavated, surveyed, and mapped (using a submeter GPS) prehistoric sites for the installation of a natural gas pipeline going from Blythe, California, to Yuma, Arizona.

San Clemente Island Testing Project, Los Angeles County, CA
Field Archaeologist
CLIENT: ASM Affiliates for the U.S. Navy, Southwest Division
Conducted excavation; auger testing; and site mapping, recording, and relocating of archaeological sites.

San Clemente Island Site Relocation Project, Los Angeles County, CA
Field Archaeologist
CLIENT: KEA Environmental for the U.S. Navy, Southwest Division
Participated in relocation, survey, and recording of prehistoric and historic sites.

San Clemente Island Eel Point Excavation, Los Angeles County, CA
Field Archaeologist/Research Assistant
CLIENT: In coordination with California State University, Northridge
Conducted excavation of multicomponent shell midden site and analysis of artifactual and ecofactual components.

Baja California Sur Site Survey Program, Baja California, Mexico
Field Assistant
CLIENT: In coordination with the University of Baja California Sur, La Paz
Participated in site survey and recording, including the illustration of rock art.

Center for Public Archaeology, California State University Northridge, California
Lab Assistant
Conducted shell, faunal, and lithic analysis, cataloging, and general curation.

MONICA STRAUSS

PROFESSIONAL PAPERS

Strauss, M. 2000. Trans-Holocene Use of Milling Tools in a Maritime Environment, Eel Point, San Clemente Island. Oral Presentation at the Society for California Archaeology Meeting, Riverside, California, April.

Strauss, M. and S. Dietler 2006. Bones, Beads and Bowls: Variation In Habitation And Ritual Contexts At Landing Hill. Oral Presentation at the Society for California Archaeology Meeting, Ventura, California, April.

SELECTED REPORTS

An Archaeological Evaluation of Four Sites in the Quarry and Ridge Road Vicinities, San Clemente Island, California. Prepared for Southwest Division, Naval Facilities Engineering Command, NRO. (2004).

Proposal for Extended Phase I Testing of CA-RIV-1085 and CA-RIV-1086 for the Proposed Ivy Street Bridge Project, City of Murrieta, CA. Prepared for Caltrans District 8. EDAW, Inc. (2003).

Historic Property Survey Report: Sepulveda Boulevard Tunnel at Mulholland Drive in Connection with the Proposed Sepulveda Boulevard Reversible Lane and Bike Lanes Project, City of Los Angeles, CA (with A. Tomes). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Historical Architectural Evaluation of the Sepulveda Boulevard Tunnel at Mulholland Drive in Connection with the Proposed Sepulveda Boulevard Reversible Lane and Bike Lanes Project, City of Los Angeles, CA (with A. Tomes). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Cultural Resources Assessment for the Proposed Lakewood Boulevard Improvement Project, City of Downey, CA (with A. Tomes). Prepared for City of Downey. EDAW, Inc. (2003).

Lake Hodges: Milling Tool Analysis. San Diego County, CA (with R. Apple). Prepared for San Diego County Water Authority. EDAW, Inc. (2003).

Historical Architectural Survey and Evaluation for the Proposal Mid-City New Police Station Project, City of Los Angeles, CA (with C. Dolan). Prepared for City of Los Angeles. EDAW, Inc. (2003).

Historical Resources Evaluations Report for the Proposed Del Amo Boulevard Extension Project, City of Torrance, CA (with C. Dolan). Prepared for City of Torrance. EDAW, Inc. (2003).

Historical Resources Evaluation Report for the Proposed Arroyo Seco Bike Path Project, County of Los Angeles (with C. Dolan). Prepared for County of Los Angeles. EDAW, Inc. (2003).

Malibu Creek State Park General Plan, City of Calabasas, CA (with E. Wilson). Prepared for California Department of Parks and Recreation. EDAW, Inc. (2003).

MONICA STRAUSS

Archaeological Survey for the Proposed Vermont Avenue Relief Sewer, City of Los Angeles, CA. Prepared for City of Los Angeles. EDAW, Inc. (2003).

Montrose Settlements Restoration Project: Preliminary Planning Report. (with K. Myers) Prepared for the National Oceanic and Atmospheric Administration. EDAW, Inc. (2003).

Taylor Yard State Park General Plan, Los Angeles, CA (with E. Wilson). Prepared of California State Parks and Recreation. EDAW, Inc. (2003).

PUBLIC OUTREACH AND EDUCATION

2003. Volunteer lecturer and field advisor at San Clemente Island Field School.

2003. Key speaker at Seal Beach Historical Society community outreach meeting regarding findings from the Hellman Ranch Archaeological Sites, Seal Beach, CA.

2002. Guest lecturer at Rosemead Elementary School regarding career opportunities in cultural resources management, Rosemead, CA.

1998–2000. Appointment at California State University, Northridge, Anthropology Department. Directed undergraduate peer student advisement center, counseled students regarding course selection, graduation preparation, and employment opportunities.

SARA DIETLER
Staff Archaeologist

SUMMARY

Ten years of experience in California archaeology

Trained in National Historic Preservation Act, Section 106 compliance

Experience with survey, excavation, mapping, recordation, lab analysis and literature research of both prehistoric and historic southern California sites

Co-authors technical reports in support of CEQA and Section 106 compliance

Experience with excavation and analysis of complex coastal shell midden sites

EDUCATION

BA, Anthropology, San Diego State University, 1998

Minor, American Indian Studies, San Diego State University, 1998

AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Sara Dietler is an archaeologist with over ten years experience in cultural resource management in Southern and Central California. She has worked for more than five years in the Los Angeles area and has participated in numerous historic and prehistoric research projects throughout the county, as well as Orange and San Diego Counties. Since joining EDAW's Los Angeles office, she has completed research as well as co-authored technical reports on numerous projects relating to the historic development of Los Angeles. She has experience in historic/prehistoric record searches, general historic literature research, historic architectural survey, historic/prehistoric site survey, recordation and excavation, and the preparation of all related cultural resource documentation.

REPRESENTATIVE EXPERIENCE

Central Los Angeles High School #9, Los Angeles, CA
Research Assistant/Field Archaeologist
CLIENT: Los Angeles Unified School District
Conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During data recovery phase in connection with a 19th century cemetery located on-site, participated in locating of features, feature excavation, mapping and client coordination. Organized background research on cemetery including; genealogical, local libraries, city and county archives, other local cemetery records, internet and local fraternal organizations. Advised in lab methodology and set up, as well as contributing to the initial technical report outline.

Hellman Ranch Monitoring, Orange County, CA
Lab Director
CLIENT: City of Seal Beach
Served as Lab Director for the final monitoring phase of the project, cataloging and analyzing artifacts recovered from salvage monitoring and test units placed in relation to recovered intact burials. Conducted microscopic analysis of small items such as bone tools and shell and stone beads. Directed lab assistants and oversaw special studies including the photo-documentation of the entire collection.

Home Depot Monitoring – Lake Elsinore, Riverside County, CA
Archaeological Monitor
CLIENT: Twining Laboratories, Fresno Participated in archaeological monitoring of Caltrans road-widening in vicinity of historic cemetery. Assisted in preparing negative report of findings. Coordinated with Caltrans.

Public Safety Facilities Master Plan, Los Angeles County, CA
Field Archaeologist/Research Assistant
CLIENT: City of Los Angeles, Department of Public Works
Assisted in research and survey of a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Completed a record search at the South Central Coastal Information Center in addition to research on specific historic attributes present on the properties and general site history within the APE.

SARA DIETLER

The Grove at Farmers Market Monitoring Project.
Lab Director
CLIENT: A.F. Gilmore Company
Served as Lab Director for the analysis of a historic collection recovered from the area surrounding the historic Farmers Market and the nearby Gilmore Adobe. The project included cataloging and analysis of all recovered artifacts, reconstruction of items, photo-documentation and preparation for display and curation of the entire collection. Co-authored the resulting technical report for the project, which detailed the results of monitoring. The report included an analysis of features and artifacts recovered and a detailed history of the property.

San Diego Ballpark Project
Archaeological Monitor
CLIENT: City of San Diego
Served as archaeological monitor for the construction of underground utility line installation for San Diego, California's downtown ballpark. Recovered historic artifacts and kept detailed records. Handled public relations and dealt with a variety of public officials and construction crews effectively, despite the controversial and complicated nature of this multimillion dollar project.

SANDAG Regional Beach Restoration Project.
Lead Archaeological Monitor
CLIENT: SANDAG
Acted as lead archaeological monitor in the inspection and analysis of offshore sediments along a large portion of coastal of San Diego County. The monitoring represented an effort to identify inundated archaeological sites in sediments representing former coastline. Collected samples of sediment, shellfish, and marine mammal remains from dredging spoils, and identified and described samples. Served as a vital member of a multidisciplinary team in materials evaluation. Job required familiarity with construction methods, and an ability to deal with a high level of media and public interest.

Hellman Ranch Monitoring, Orange County, CA
Lab Assistant
CLIENT: City of Seal Beach
Catalogued a portion of the materials from the archaeological excavation of over forty test excavation units at six Gabrielino sites in Seal Beach, California. Processed and analyzed in detail all invertebrate material recovered from the unit column samples.

Barona Reservation Cultural Center Project, San Diego County, CA
Lab Assistant
CLIENT: Barona Band of Mission Indians
Completed an inventory of the recently purchased core collection for a new archaeological museum. Identified, inventoried, cleaned, and restored the artifacts, including extensive lithic and ceramic assemblages. Transformed the old and poorly packaged collection into one professionally sorted, documented, and labeled, and curated to Federal standards.

All American Pipeline Conversion Survey
Field Archaeologist
CLIENT: Plains All American Pipeline, L.P.

Led a field crew as a part of a 170-mile long archaeological survey for the conversion of a high-pressure gas pipeline in the Mojave Desert between the towns of Daggett and Blythe, California. The survey located and updated previously unrecorded resources, including 93 archaeological sites and 22 isolated artifacts.

Level Three Long Haul Construction Monitoring.
Archaeological Monitor/Lab Assistant
CLIENT: Level Three Communications
Coauthored a technical report concerning the salvage excavation of a Chumash multiple human burial exposed during the project, researching and analyzing the unique assemblage of stone beads associated with the human remains. Monitored the directional drilling, trenching, and clean-up relating to the installation of fiber optic cable along the coast of Santa Barbara and Ventura Counties, California. Worked closely with Chumash monitors in the identification, boundary and significance testing, and protection of prehistoric archaeological sites.

Model Marsh Data Recovery.
Field Archaeologist/Lab Assistant
CLIENT: City of San Diego
Excavated and water screened as part of a archaeological data recovery project for a buried Late Prehistoric period shell midden site (CA-SDI-15,598) in southern coastal San Diego, California. Following the excavation of 41 archaeological test units and 23 shovel test pits, sorted, catalogued, and speciated over 77,000 grams of shellfish and other cultural materials. Wrote the Invertebrate Faunal Analysis chapter of the resulting technical report.

MILCON Monitoring and Data Recovery.
Field Archaeologist
CLIENT: Naval Facilities Engineering Command, Southwest Division
Served as field crew for the emergency salvage treatment of eleven flexed human burials on northern MCAS Camp Pendleton, San Diego County, California. Data recovery included the identification of burial features during monitoring, exposing, documenting, and identifying visible remains, and then pedestalling and removing them in blocks.

ARCO Burial Ground Salvage Excavation.
Lab Assistant
CLIENT: ARCO Gas
Assisted in cataloguing and analyzing artifacts following the salvage excavation of site CA-LAN-2682, a Protohistoric period Gabrielino habitation site and burial ground. Identified, sorted, and catalogued archaeological material including artifacts, large numbers of invertebrate and vertebrate faunal remains, as well as human remains. Conducted extensive research on several similar sites, culminating in an analytical paper presented at the 1999 Society for California Archaeology Meetings and published the following year in the group's proceedings.

PUBLICATIONS AND PROFESSIONAL PAPERS

Dietler, S. 2000. Protohistoric Burial Practices of the Gabrielino as Evidenced by the Comparison of Funerary Objects from Three Southern California Sites. In *Proceedings of the Society for California Archaeology, Volume 13*. Judyth Reed,

Greg Greenway, and Kevin McCormick eds. Society for California Archaeology. Fresno.

Strauss, M. and S. Dietler 2006. Bones, Beads and Bowls: Variation In Habitation And Ritual Contexts At Landing Hill. Oral Presentation at the Society for California Archaeology Meeting, Ventura, California, April.

PUBLIC OUTREACH AND EDUCATION

2005. Guest lecturer at Santa Monica Community College regarding career opportunities in cultural resources management, Santa Monica, CA.

2006. Guest lecturer at Santa Monica Community College regarding early Los Angeles history and cemetery research and excavation, Santa Monica, CA.

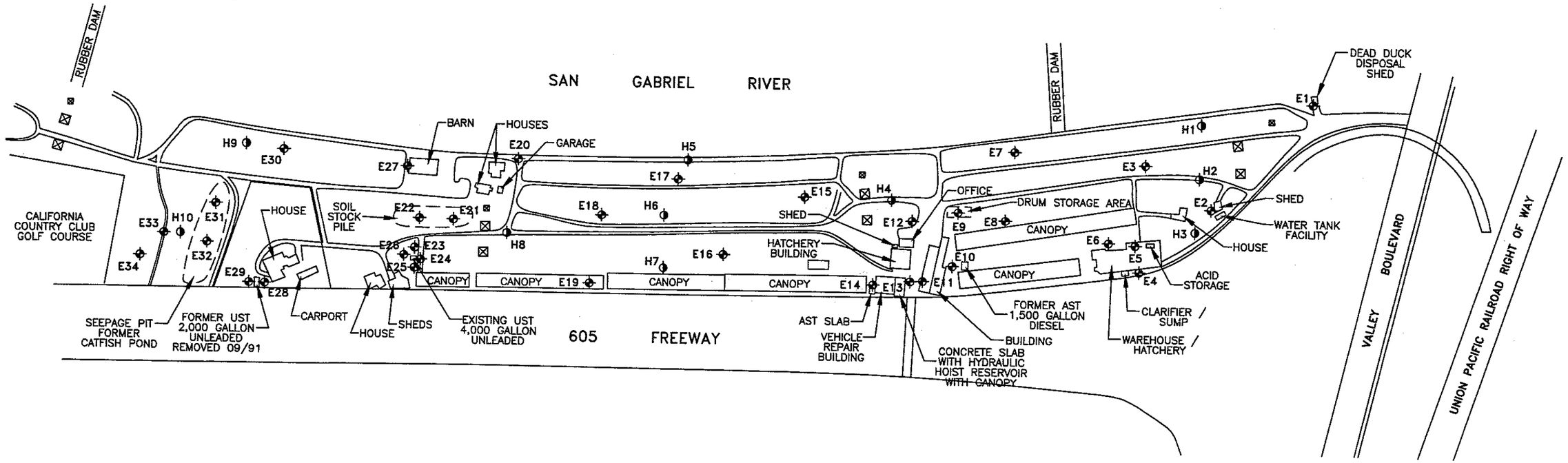
APPENDIX B
DPR Forms

DPR Forms are available by contacting:

Frank Simpson
Watershed Conservation Authority
900 South Fremont Avenue, 2nd Floor
Alhambra, CA 91802
Email: fsimpson@rmc.ca.gov

Appendix D

Soil Boring Map



EXPLANATION

E34 ⊕ APPROXIMATE ENVIRONMENTAL SOIL BORING LOCATION

H10 ⊕ APPROXIMATE HYDROGEOLOGIC SOIL BORING LOCATION

⊠ POWER TRANSMISSION TOWER

0 FEET 300

KLEINFELDER

WOODLAND DUCK FARM PROPERTY
Unincorporated Bassett, Los Angeles County and City of Industry, California

Project: 24793 January 2003

SITE BORING LOCATION MAP

PLATE 2

Appendix E

Traffic Impact Analysis

DRAFT

TRAFFIC STUDY
FOR THE
DUCK FARM
ACTIVE AND PASSIVE PARK PROJECT
LOS ANGELES COUNTY, CALIFORNIA

MAY 2007

PREPARED FOR

EDAW, INC.

PREPARED BY

FEHR & PEERS
KAKUASSOCIATES

DRAFT

TRAFFIC STUDY
FOR THE
DUCK FARM
ACTIVE AND PASSIVE PARK PROJECT

LOS ANGELES COUNTY, CALIFORNIA

May 2007

Prepared for:

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Prepared by:

FEHR & PEERS/KAKU ASSOCIATES
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I. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers/Kaku Associates to evaluate the potential traffic and parking impacts for the proposed active and passive park facility south of Valley Boulevard at the I-605 Freeway in the Avocado Heights community of unincorporated Los Angeles County in California.

PROJECT DESCRIPTION

The proposed project site, illustrated in Figure 1, is located south of Interstate 10 (I-10) along the eastern bank of the San Gabriel River. The 37.45-acre project site extends along the bank of the San Gabriel River to the west, Valley Boulevard to the north, Rall Avenue and Ramada Avenue to the east and Peckham Road to the south. I-605 meets the project site at East Valley Boulevard and extends through the center of the project site in a southwesterly direction.

Access to the site is currently provided via Proctor Street, Rall Avenue, and Temple Avenue. The primary access to the park would be on Proctor Street, with the secondary entrance at Rall Avenue for access to the equestrian facility and neighborhood park. The Temple Avenue entry to the park would be controlled by key card and reserved for service vehicles, flood control trucks and emergency vehicles.

As shown in Figure 2, the project site, located on the former Woodland Duck Farm site, currently contains vacant land, minimal plant nursery activities and approximately four acres of equestrian facilities, all of which would be removed and/or expanded as part of the project. Phase 1 would involve the development of approximately 37.45 acres of land and would provide 18.5 acres of passive park, 12.2 acres of active park and 2,000 square feet (sf) of visitor's center. There are tentative plans for a Phase 2 construction of additional active and passive park uses to the southwest of the project site, but this portion is not analyzed in this report.

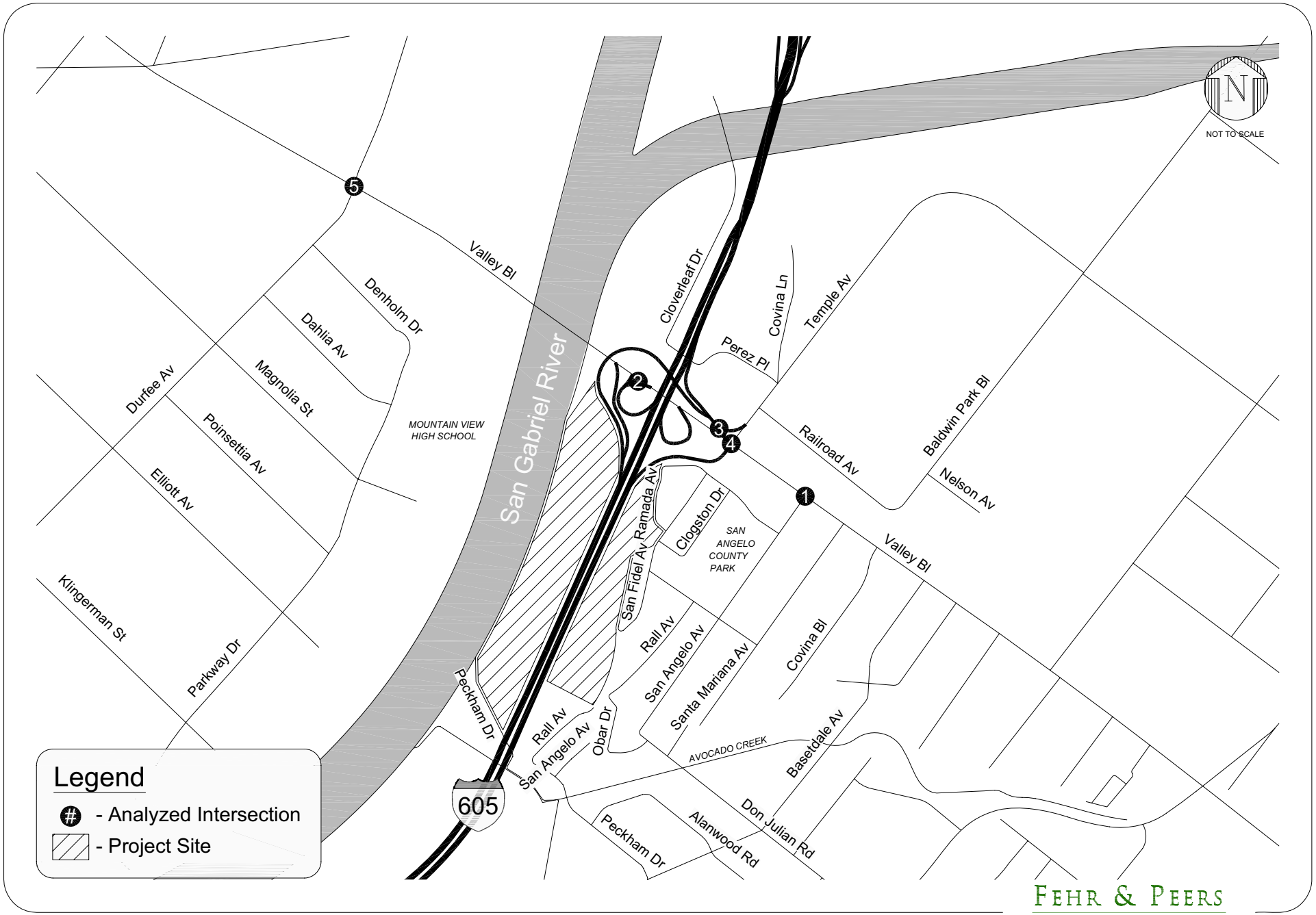
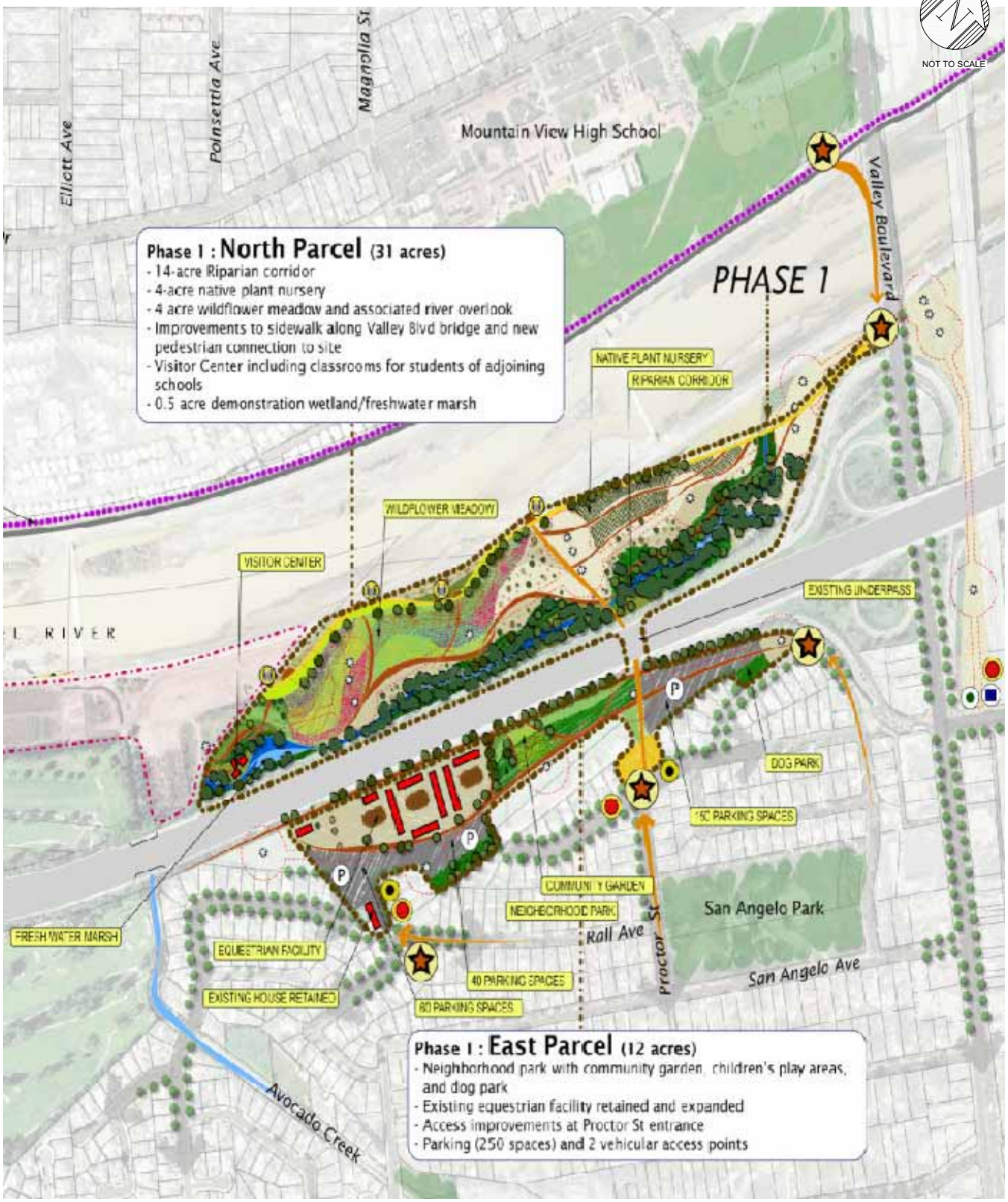


FIGURE 1
STUDY AREA AND LOCATION OF ANALYZED INTERSECTIONS



Source: EDAW AECOM

FEHR & PEERS
KAKU ASSOCIATES

FIGURE 2
SITE PLAN

The project would provide a total of 250 parking spaces in two lots on the east side of the Duck Farm site. One surface lot would contain 150 parking spaces and would be accessible via the Proctor Street entrance. A 100-space parking lot would be located near the Rall Avenue entrance. Both lots would include bus and handicapped parking spaces.

STUDY SCOPE

The study, which analyzes potential project-generated traffic impacts on the adjacent street system, expects that the project will be completed by 2009. The analysis of future year traffic forecasts is based on projected conditions in 2009 both with and without the addition of the project traffic. The following traffic scenarios have been developed and analyzed as part of this study:

- Existing (2007) Conditions - The analysis of existing traffic conditions is intended to provide a basis for the remainder of the study. The existing conditions analysis includes a description of the street system serving the site, current traffic volumes, and an assessment of the operating conditions at these locations.

- Cumulative Base (2009) Conditions - Future traffic conditions without the proposed project will be developed for the year 2009. The objective of this analysis is to project future traffic growth and operating conditions that could be expected to result from regional growth and related projects in the vicinity of the project site by the year 2009.

- Cumulative (2009) plus Project Conditions - This traffic scenario provides projected traffic volumes and an assessment of operating conditions under future conditions with the addition of project-generated traffic. The impacts of the proposed project on future traffic operating conditions can then be identified.

The study analyzed the potential for project-generated traffic impacts on the street system surrounding the project site for the typical weekday a.m. and p.m. peak hours. Five intersections were included in the analysis as follows:

1. San Angelo Avenue and Valley Boulevard
2. I-605 southbound off-ramp and Valley Boulevard
3. I-605 northbound/southbound on-ramp and Valley Boulevard
4. I-605 northbound off-ramp/Temple Avenue and Valley Boulevard
5. Durfee Avenue and Valley Boulevard

The locations of the five analyzed intersections are illustrated in Figure 1.

ORGANIZATION OF REPORT

This report is divided into seven chapters, including this introductory chapter. Chapter II describes the existing circulation system, traffic volumes, and traffic conditions in the study area. The methodologies used to forecast future traffic volumes are described and applied in Chapter III. Chapter IV presents an assessment of potential traffic impacts for the cumulative plus project scenario. Issues regarding on-site parking are evaluated in Chapter V. Chapter VI presents the regional Congestion Management Program analysis. A summary of the analyses and study conclusions are presented in Chapter VII. Details of the technical analysis are included in the appendices.

II. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes an inventory of the street system, traffic volumes on these facilities, and operating conditions at key intersections.

EXISTING STREET SYSTEM

The 37.45-acre project site is bounded by the bank of the San Gabriel River to the west, Valley Boulevard to the north, Rall Avenue and Ramada Avenue to the east and Peckham Road to the south. Primary regional access to the study area is provided by I-605, which runs generally in a northeast-southwest direction through the project site. Project access to and from I-605 is available via northbound and southbound exit ramps at Valley Boulevard, adjacent to the northerly end of the project site. Other regional access to the project site is provided by Valley Boulevard, which runs in a northwest-southeast direction north of the project site. Local access to the site is currently provided via Proctor Street, Rall Avenue, and Temple Avenue.

Diagrams of the existing lane configurations at the analyzed intersections are contained in Appendix A.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

The following sections discuss the methodology used to analyze the intersection traffic conditions and present the intersection peak hour traffic volumes and the resulting level of service at each of the study intersections under existing conditions.

Existing Traffic Volumes

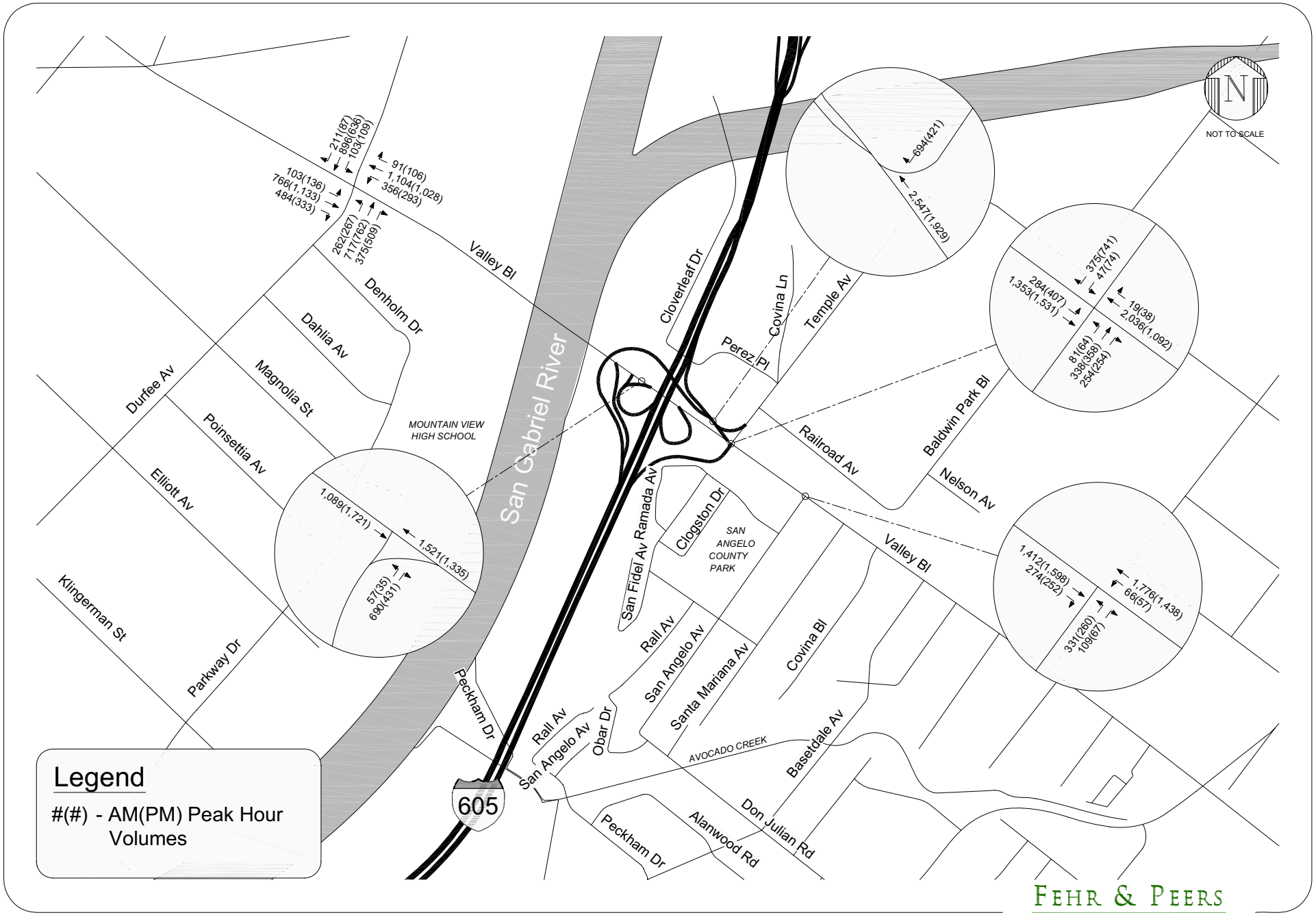
Weekday a.m. and p.m. peak period intersection turning movement counts were collected at the five study intersections on Wednesday, January 10, 2007. These weekday traffic volumes represent existing conditions. The existing weekday peak hour turning movements at the analyzed intersections are contained in Appendix B and are illustrated in Figure 3.

Level of Service Methodology

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is the typically recognized minimum acceptable level of service in urban areas. Table 1 provides LOS definitions for signalized intersections and Table 2 provides LOS definitions for stop-controlled intersections. Three of the study intersections are signalized and two study intersections are stop-controlled.

The "Intersection Capacity Utilization" (ICU) method of intersection analysis was used to determine the intersection volume-to-capacity (V/C) ratio and corresponding level of service for the turning movements and intersection characteristics at the signalized intersections in the County of Los Angeles. The lane capacity used for this study was 1,600 vehicles per hour (vph), as specified in *Traffic Impact Analysis Report Guidelines* (County of Los Angeles Department of Public Works, January 1, 1997).

The *Highway Capacity Manual 2000* (HCM 2000) unsignalized method (Transportation Research Board, 2000) is used to determine the intersection delay and corresponding level of service for the given turning movements and intersection characteristics at the stop-controlled intersections.



FEHR & PEERS
KAKU ASSOCIATES

FIGURE 3
EXISTING PEAK HOUR VOLUMES

TABLE 1
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Highway Capacity Manual, Special Report 209* , Transportation Research Board, 2000.

TABLE 2
LEVEL OF SERVICE DEFINITIONS FOR
UNSIGNALIZED INTERSECTIONS

Level of Service	Average Total Delay (seconds/vehicle)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 15.0
C	> 15.0 and $\leq$ 25.0
D	> 25.0 and $\leq$ 35.0
E	> 35.0 and $\leq$ 50.0
F	> 50.0

Source: *Highway Capacity Manual, Special Report 209,* Transportation Research Board, 2000.

Existing Levels of Service

The traffic volumes presented in Figure 3 were analyzed using the intersection capacity analysis methodology described above to determine the current operating conditions at the five intersections. Table 3 summarizes the existing weekday morning and evening peak hour V/C ratio or delay and the corresponding LOS for each of the study intersections. The results of this analysis indicate that one of the analyzed intersections, San Angelo Avenue and Valley Boulevard, is currently operating at LOS C or better during both the morning and afternoon peak periods. The remaining four intersections are operating at LOS D, E or F during either the morning or afternoon peak, or both.

EXISTING TRANSIT SERVICE

The study area is served by bus routes provided by the Los Angeles County Metropolitan Transportation Authority (Metro) and Foothill Transit (FT) as described below:

- Metro 484 - Line 484 provides express service between Cal Poly Pomona and downtown Los Angeles and connects the communities of El Monte, La Puente, and Walnut. In the study area, Line 484 travels east and west along Valley Boulevard. Service is provided seven days per week, with an average headway of 30 minutes during the weekday peak period.

- Metro 577X - Line 577X provides express service between El Monte and Long Beach, with a connecting stop at the Norwalk Green Line Station. In the study area, Line 577X travels north and south along I-605. Service is provided Monday through Friday, with an average headway of 30 minutes during the weekday peak period.

- FT 274 - Line 274 provides local service between Whittier and West Covina. In the study area, Line 274 travels along Workman Mill Road and Puente Avenue. Service is provided seven days per week, with an average headway of one hour during the weekday peak period.

- FT 482 - Line 482 provides express service between Pomona and downtown Los Angeles and connects the communities of Diamond Bar, City of Industry, Puente Hills, and El Monte. In the study area, Line 482 travels along SR 60 and I-605. Service is provided seven days per week, with an average headway of 30 minutes during the weekday peak period.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE ANALYSIS
YEAR 2007

No.	Intersection	Peak Hour	2006 Existing Conditions	
			V/C or delay	LOS
1	San Angelo Av and Valley Bl	A.M.	0.699	B
		P.M.	0.684	B
2	I-605 SB Off-ramp and Valley Bl	A.M.	1.006	F
		P.M.	0.907	E
		A.M.	217	F
		P.M.	256	F
3	I-605 NB/SB On-ramp and Valley Bl	A.M.	1.330	F
		P.M.	0.966	E
		A.M.	**	F
		P.M.	210	F
4	I-605 NB Off-ramp/Temple Av and Valley Bl	A.M.	0.940	E
		P.M.	1.415	F
5	Durfee Av and Valley Bl	A.M.	1.158	F
		P.M.	1.107	F

Notes:

** Indicates oversaturated conditions. Delay cannot be calculated.

- FT 493 - Line 493 provides express service between downtown Los Angeles and Phillips Ranch and connects the communities of Pomona, Diamond Bar, and the City of Industry. Line 493 runs north and south along I-605 in the study area.

- FT 497 - Line 497 provides express service between downtown Los Angeles and the Chino Transit Center and connects the communities of Chino Hills, El Monte, and the City of Industry. Line 497 runs north and south along I-605 in the study area.

III. FUTURE TRAFFIC PROJECTIONS

Estimates of future traffic conditions both with and without the proposed project were necessary to evaluate the potential impact of the proposed project on the local street system. The cumulative base traffic scenario represents future traffic conditions without the addition of the proposed project, while the cumulative plus project scenario represents future traffic conditions with the development of the proposed project. Year 2009 was selected as the study year to coincide with buildout of the project.

CUMULATIVE BASE TRAFFIC PROJECTIONS

The cumulative base traffic projections reflect ambient growth in traffic over existing conditions. Existing traffic is expected to increase between year 2007 and year 2009, and ambient growth reflects these increases in traffic due to regional growth and development. Based on historical trends and at the direction of the *2004 Congestion Management Program (CMP) for Los Angeles County* (Metro, January 2004), an ambient growth factor of 1% per year was used to adjust the existing year 2007 traffic volumes to reflect the effects of regional growth and development by the year 2009. The total adjustment applied over the four-year period was 2%. Figure 4 illustrates the cumulative base traffic conditions for the weekday a.m. and p.m. peak hours in 2009.

CUMULATIVE BASE TRAFFIC CONDITIONS

The cumulative base peak hour traffic volumes illustrated in Figure 4 were analyzed to determine the V/C ratio and corresponding LOS for each of the analyzed intersections under year 2009 future conditions without the proposed project, taking into account a conservative ambient growth rate. Table 4 summarizes these results. Under year 2009 cumulative base conditions, Table 4 shows that one of the analyzed intersections, San Angelo Avenue and Valley Boulevard is

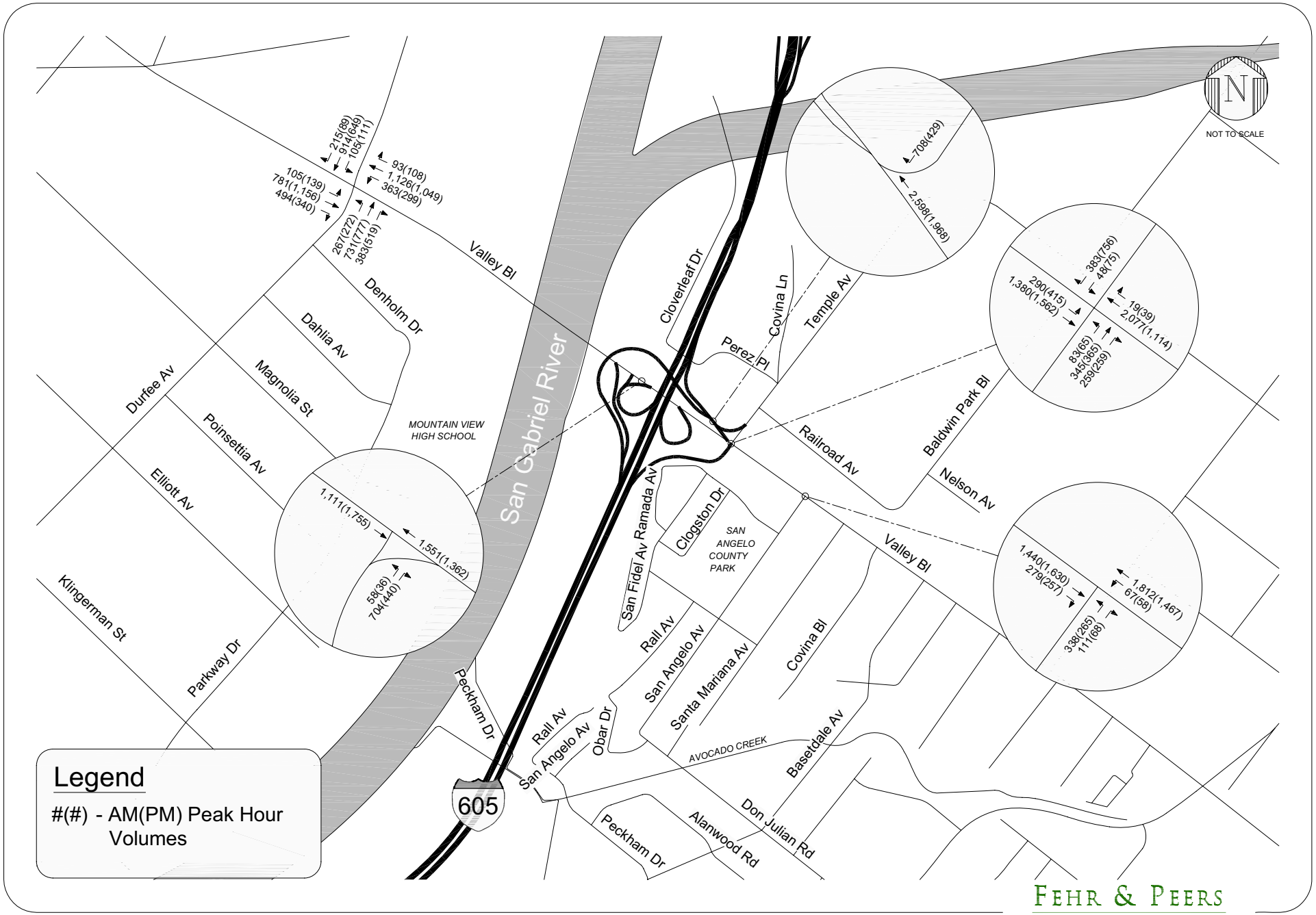


FIGURE 4
CUMULATIVE BASE PEAK HOUR VOLUMES

TABLE 4
FUTURE INTERSECTION LEVEL OF SERVICE ANALYSIS
YEAR 2009

No.	Intersection	Peak Hour	Cumulative Base		Cumulative plus Project		Project Increase in V/C	Significant Project Impact?
			V/C or Delay	LOS	V/C or Delay	LOS		
1	San Angelo Av and Valley Bl	A.M.	0.711	C	0.722	C	0.011	No
		P.M.	0.695	B	0.704	C	0.009	No
2	I-605 SB Off-ramp and Valley Bl [a]	A.M.	1.025	F	1.028	F	0.003	No
		P.M.	0.923	E	0.926	E	0.003	No
		A.M.	240	F	245	F		
		P.M.	288	F	292	F		
3	I-605 NB/SB On-ramp and Valley Bl [a]	A.M.	1.355	F	1.356	F	0.001	No
		P.M.	0.983	E	0.984	E	0.001	No
		A.M.	**	F	**	F		
		P.M.	236	F	237	F		
4	I-605 NB Off-ramp/Temple Av and Valley Bl	A.M.	0.958	E	0.959	E	0.001	No
		P.M.	1.441	F	1.443	F	0.002	No
5	Durfee Av and Valley Bl	A.M.	1.178	F	1.180	F	0.002	No
		P.M.	1.128	F	1.129	F	0.001	No

Notes:

** Indicates oversaturated conditions. Delay cannot be calculated.

[a] Intersection is two-way stop-controlled. Analysis was done using Highway Capacity Manual (2000) Two-Way Stop-Controlled methodology. For the purpose of evaluating the operating conditions of the intersection, average vehicular delay in seconds is reported rather than V/C ratio.

projected to operate at LOS D or better during both peak hours. The four remaining intersections are projected to operate at LOS E or F during at least one of the analyzed peak hours.

PROJECT TRAFFIC VOLUMES

Traffic generation estimates for the proposed project involves the use of a three-step process. The three steps are traffic generation, trip distribution, and traffic assignment.

Project Traffic Generation

The trip rates from *Trip Generation*, *7th Edition* (Institute of Transportation Engineers [ITE], 2003) and *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (San Diego Association of Governments [SANDAG], April 2002) were used to estimate the number of trips generated by the proposed project as well as trip generation estimates for existing uses on the site to be removed. Table 5 provides a summary of the project trip generation estimates and rates. Taking into account existing uses to be removed, it is estimated that the project would generate a net increase of 303 weekday daily trips, including approximately 37 weekday a.m. peak hour trips (19 inbound, 18 outbound) and 26 weekday p.m. peak hour trips (12 inbound, 14 outbound).

Project Traffic Distribution

The geographic distribution of trips generated by the proposed project is dependent on the locations of residential areas from which patrons of the park would be drawn, and the level of accessibility of the routes to and from the proposed project site. The general distribution pattern for this study was developed in conjunction with the CMP and the project traffic distribution is illustrated in Figure 5. As indicated, the following is the regional trip distribution applied in the analysis for the project:

TABLE 5
TRIP GENERATION ESTIMATES
DUCK FARM PROJECT - PHASE 1

Proposed Project			Trip Generation Rates								Estimated Trips						
				Weekday							Weekday						
Land Use	Size	Unit	ITE Code	Daily	A.M. Peak Hour			P.M. Peak Hour			Daily	A.M. Peak Hour			P.M. Peak Hour		
					In	Out	Rate	In	Out	Rate		In	Out	Total	In	Out	Total
Visitor Center	2	ksf	495 [a]	22.88	61%	39%	1.62	29%	71%	1.64	46	2	1	3	1	2	3
Passive Park	18.5	acre	[b]	5.00	50%	50%	0.65	50%	50%	0.45	93	6	6	12	4	4	8
Riparian Corridor	*14*	acre															
Wildflower meadow/outlook	*4*	acre															
Wetland/Freshwater Marsh	*0.5*	acre															
Active Park	12.2	acre	[c]	20.00	50%	50%	2.60	50%	50%	1.80	244	16	16	32	11	11	22
Neighborhood Park	*3*	acre															
Native Plant Nursery	*4*	acre															
Equestrian Facilities	*5.2*	acre															
Net New Uses											383	24	23	47	16	17	33
Existing Uses [d]																	
Equestrian Facilities	*4.0*	acre	[c]	20.00	50%	50%	2.60	50%	50%	1.80	80	5	5	10	4	3	7
Net Incremental Trips											**303**	**19**	**18**	**37**	**12**	**14**	**26**

[a] Trip generation rate for Community Center from *Trip Generation, 7th Edition* (Institute of Transportation Engineers, 2003).
[b] Trip generation rate for undeveloped Neighborhood/County Park from *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (San Diego Association of Governments [SANDAG], April 2002).
[c] Trip generation rate for developed Regional Park from *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.
[d] Analysis assumes a trip credit for existing uses that would be expanded as part of the proposed project.

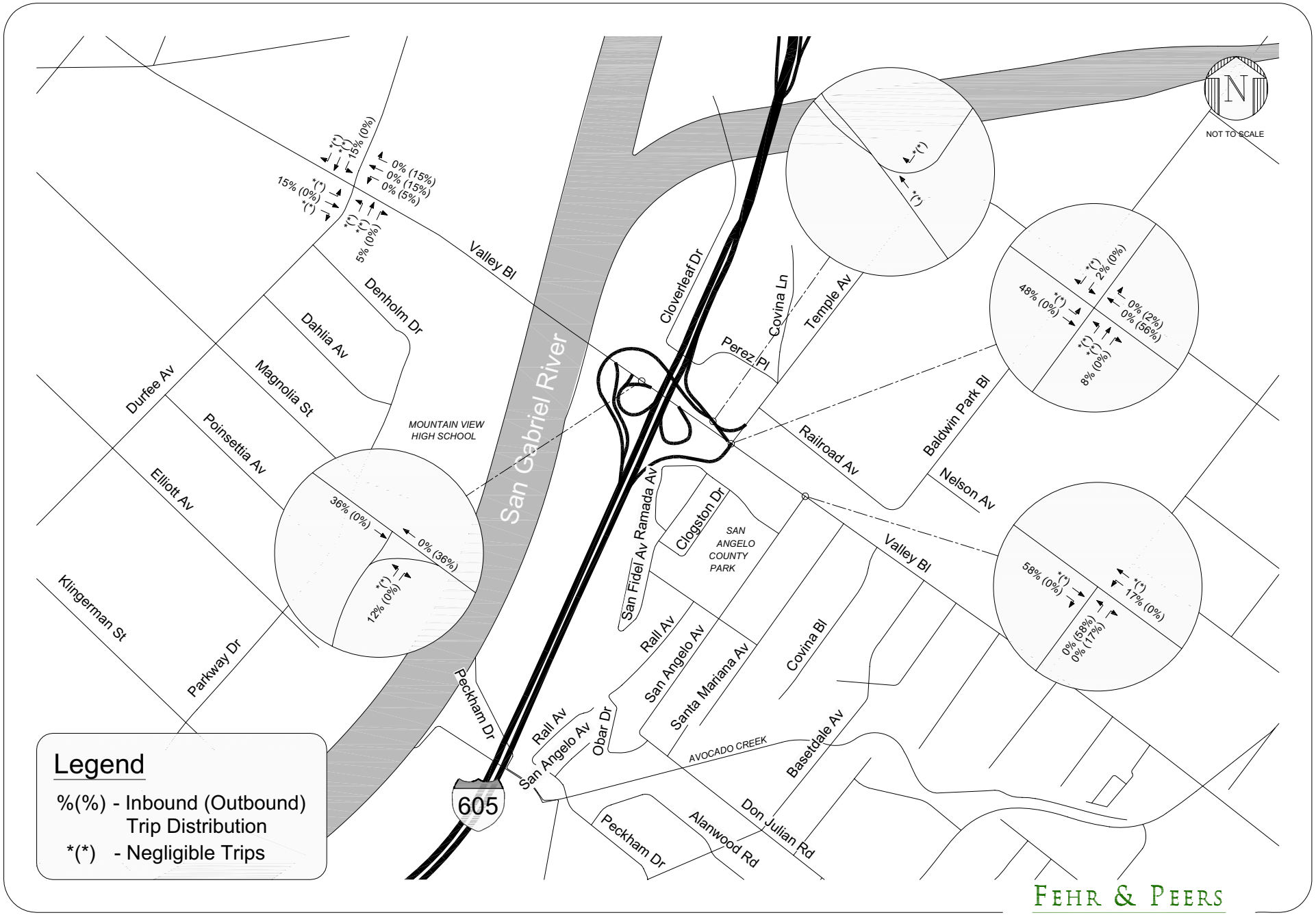


FIGURE 5
PROJECT TRIP DISTRIBUTION

- 30% to/from the north
- 23% to/from the south
- 32% to/from the east
- 15% to/from the west on Valley Boulevard

Project Traffic Assignment

The project trip generation estimates summarized in Table 5 and the distribution patterns illustrated in Figure 5 were used to assign the project-generated traffic to the local and regional street system and through the five study intersections. Figure 6 illustrates the proposed project-generated peak hour traffic volumes at each of the five analyzed intersections and the project driveway during typical weekday a.m. and p.m. peak hours.

CUMULATIVE PLUS PROJECT TRAFFIC PROJECTIONS

The project-generated traffic volumes shown in Figure 6 were added to the cumulative base traffic projections in Figure 4. Figure 7 illustrates the resulting projected cumulative plus project a.m. and p.m. peak hour traffic volumes. These volumes represent projected future weekday peak hour traffic conditions including the completion of the proposed project.

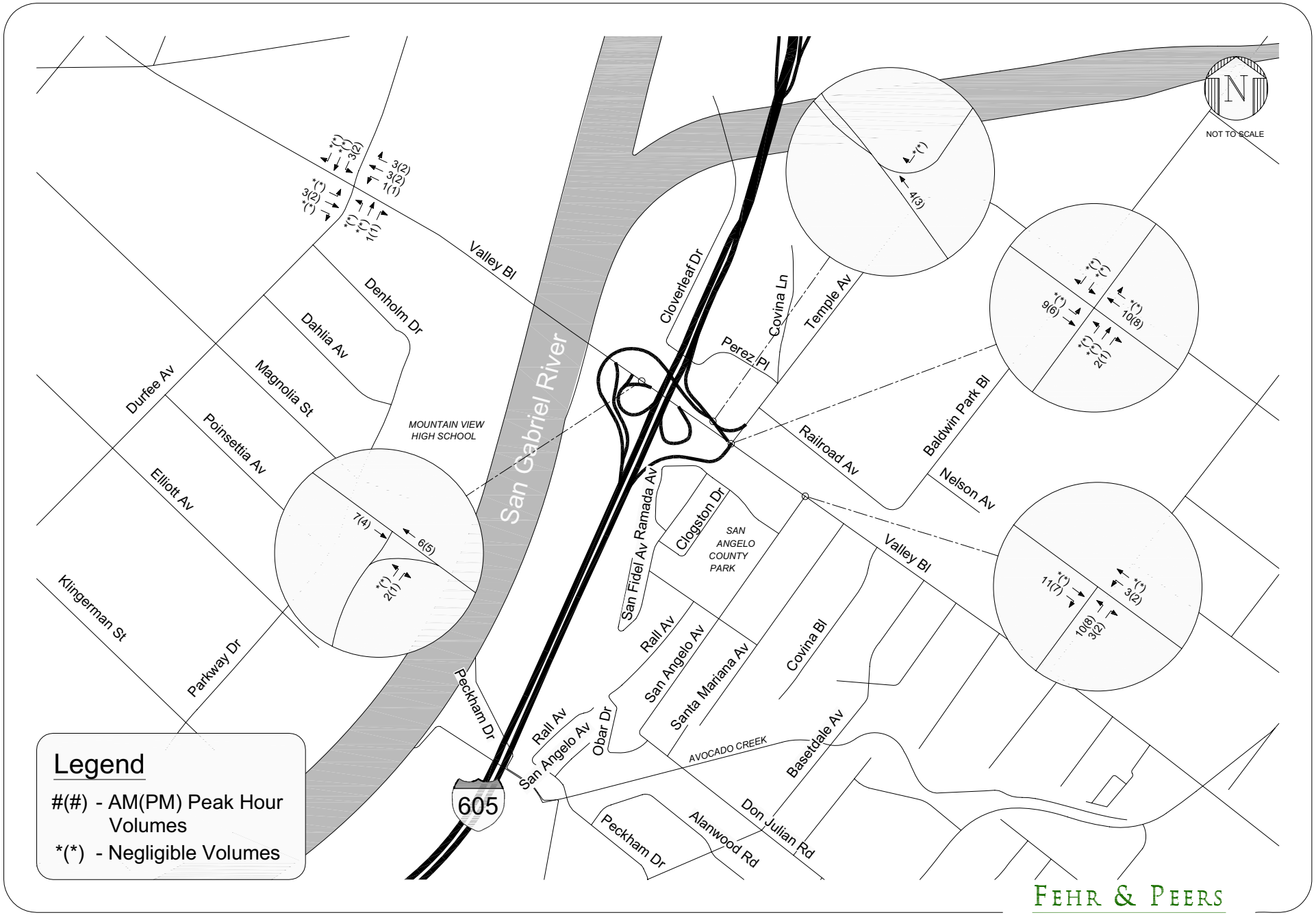
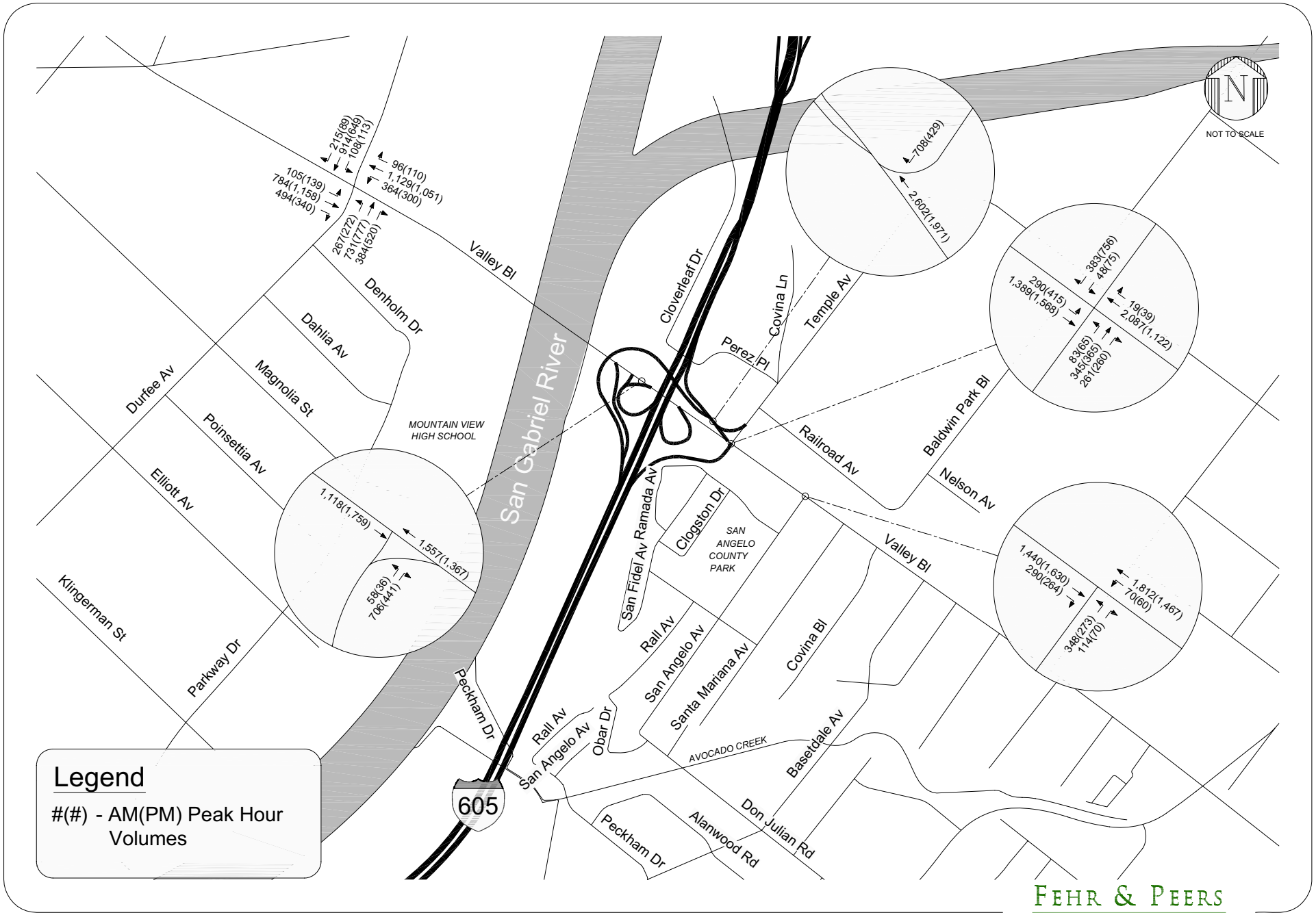


FIGURE 6
PROJECT ONLY PEAK HOUR VOLUMES



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FIGURE 7
CUMULATIVE PLUS PROJECT PEAK HOUR VOLUMES

IV. TRAFFIC IMPACT ANALYSIS

This section presents an analysis of the projected cumulative base and cumulative plus project traffic volumes to determine the potential impacts of the proposed park project on the street system.

CRITERIA FOR DETERMINATION OF SIGNIFICANT TRAFFIC IMPACT

Los Angeles County Department of Public Works (LADPW) has established threshold criteria that determine if a project has a significant traffic impact at a specific intersection. According to LADPW criteria, a project impact would be considered significant if the following conditions were met:

Intersection Conditions without Project Traffic		Project-related Increase in V/C Ratio
LOS	**V/C Ratio**	
C	0.71 - 0.80	Equal to or greater than 0.04
D	0.81 - 0.90	Equal to or greater than 0.02
E, F	> 0.91	Equal to or greater than 0.01

The County guidelines imply that an LOS above C is acceptable. Therefore, the baseline V/C for LOS above C can be taken as 0.71 as defined in the guidelines.

Unsignalized intersections were analyzed using the 2000 HCM stop-controlled methodology. This method quantifies the intersection operations in terms of average vehicular delay in seconds. Because LADPW criteria do not address the significant impact thresholds for unsignalized intersections, consultation with LADPW staff determined that unsignalized intersections could be assessed by analyzing these locations using the impact criteria for signalized intersections so that the incremental change in V/C ratio would be measured.

PROJECT TRAFFIC IMPACT ANALYSIS

The cumulative plus project peak hour traffic volumes illustrated in Figure 7 were analyzed to determine the projected year 2009 future operating conditions with the completion of the proposed project. These results are presented in Table 4. The cumulative plus project conditions follow the trend set by the cumulative base conditions. As shown in Table 4, one of five analyzed intersections, San Angelo Avenue and Valley Boulevard, is projected to operate at LOS D or better during both peak hours. The four remaining intersections are projected to operate at LOS E or F during at least one of the analyzed peak hours. LOS worksheets are provided in Appendix C.

As indicated in Table 4, using the traffic impact significance criteria described above, the proposed project would not have a significant impact at any of the five study intersections during either of the peak hours.

V. PARKING ANALYSIS

The peak period parking demands for the proposed development were estimated using the parking generation ratios for active park and community center facilities from *Parking Generation, 3rd Edition* (ITE, 2004). Parking demand ratio for the passive park was developed by the ratio (0.25) of passive park trip generation rate to active park trip generation rate. As summarized in Table 6, the proposed development would have a parking demand of 94 spaces for the project. As the project would provide 250 spaces, the parking supply is anticipated to exceed peak parking demand.

TABLE 6
PARKING DEMAND AND SUPPLY ANALYSIS

Land Use	Size	Unit	ITE Peak Period Parking Demand Rate		Demand	Supply	Surplus (Shortfall)
			Spaces	Unit			
Passive Park	18.5	acre	1.28	per acre	24		
Active Park	12.2	acre	5.10	per acre	62		
Visitor's Center	2.0	ksf	3.83	per ksf	8		
Total					94	250	156

Note:

Parking demand ratio for Active Park and Community Center obtained from *Parking Generation, 3rd Edition* (Institute of Transportation Engineers, 2004). Parking demand ratio for passive park was developed by the ratio (0.25) of passive park trip generation rate to active park trip generation rate.

VI. REGIONAL TRANSPORTATION SYSTEM ANALYSIS

Additional analyses were conducted to comply with the Metro CMP requirements. In accordance with CMP Transportation Impact Analysis (TIA) requirements, potential impacts of the proposed project on the CMP freeway monitoring locations and CMP arterial intersection monitoring stations were evaluated.

CMP SIGNIFICANT TRAFFIC IMPACT CRITERIA

The CMP requires that, when an environmental impact report is prepared for a project, traffic and transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use these facilities.

CMP TRAFFIC IMPACT ANALYSIS

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are the following:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the morning or evening weekday peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips in either direction during either of the weekday peak hours.

The CMP arterial monitoring intersections nearest to the project site are over four miles to the east on Rosemead Boulevard and over five miles to the west on Azusa Avenue. Based on the project trip generation estimates previously presented and a review of the project traffic volumes shown in Figure 5, the proposed project is not expected to add more than 50 vph to either of

these two locations during either peak hour. Therefore, a CMP arterial intersection analysis is not required.

The nearest mainline freeway monitoring locations are along I-605 and I-10 freeways. Based on the incremental project trip generation estimates developed in Chapter III, the proposed project is not expected to add sufficient new traffic to exceed the freeway analysis criteria at this location. Neither would the added project traffic exceed the CMP freeway analysis criteria on the segments of the I-605 nor I-10 freeways closer to the project site that are not CMP monitoring locations but are more likely to be affected by the proposed project (e.g., I-605 near Valley Boulevard). Since incremental project-related traffic in any direction during either peak hour is projected to be less than the minimum criteria of 150 vph, no further CMP freeway analysis is required.

VII. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed park project along the I-605 freeway and Valley Boulevard in unincorporated Los Angeles County. The following summarizes the results of this analysis:

- The proposed park project would include 37.45-acre passive and active park uses. A total of 250 parking spaces would be provided, exceeding the estimated parking demand, with three driveway access points.

- A total of five intersections were analyzed for this project. One of the analyzed intersections currently operates at LOS D or better during both peak hours.

- The proposed project is expected to generate a net increase of approximately 37 trips (19 inbound, 18 outbound) during the morning and 26 trips (12 inbound and 14 outbound) during the afternoon peak hour, and approximately 303 daily trips.

- Analysis of projected year 2009 cumulative plus project conditions indicates that, using the significance criteria established by LADPW, the proposed project would have no significant intersection impacts.

- The parking demand for the proposed project is 94 spaces based on *Parking Generation, 3rd Edition* estimates. The proposed project will provide 250 spaces.

- Summary analysis of potential impacts on the regional transportation system conducted in accordance with CMP requirements determined that the project would not generate sufficient trips to have a significant impact on either the CMP arterial highway network or the mainline freeway system.

REFERENCES

2004 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July 2004.

Highway Capacity Manual 2000, Transportation Research Board, 2000.

Parking Generation, 3rd Edition, Institute of Transportation Engineers, 2004.

Traffic Impact Analysis Report Guidelines, County of Los Angeles Department of Public Works, January 1, 1997.

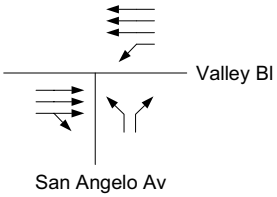
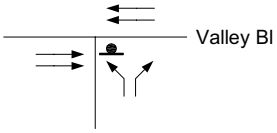
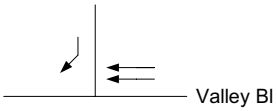
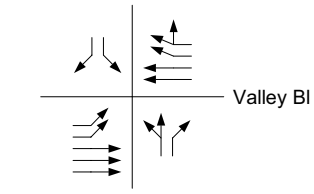
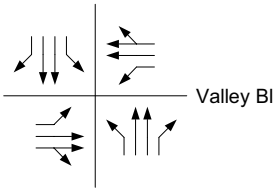
Trip Generation, 7th Edition, Institute of Transportation Engineers, 2003.

APPENDIX A

INTERSECTION LANE CONFIGURATIONS

INTERSECTION LANE CONFIGURATIONS

NOT TO SCALE

	EXISTING CONDITIONS	FUTURE CONDITIONS
1. San Angelo Av & Valley Bl		Same as Existing
2. I-605 SB Off-Ramp & Valley Bl		Same as Existing
3. I-605 On-Ramps & Valley Bl		Same as Existing
4. I-605 NB Off-Ramp/Temple Av & Valley Bl		Same as Existing
5. Durfee Av & Valley Bl		Same as Existing

LEGEND

Stop Controlled
Uncontrolled Right Turn

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APPENDIX B

TRAFFIC COUNTS

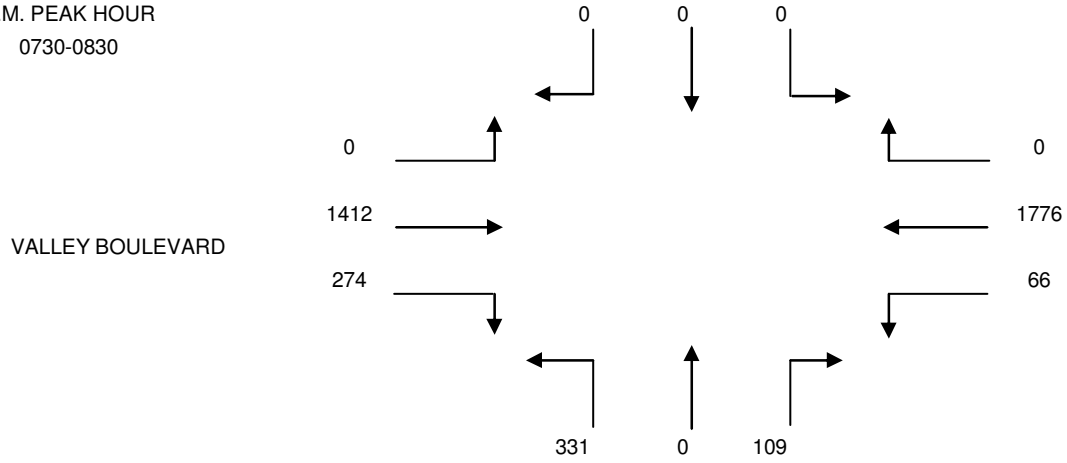
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION N/S SAN ANGELO AVENUE
E/W VALLEY BOULEVARD
FILE NUMBER: 1-AM1

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	0	0	0	0	374	20	14	0	61	40	314	0
715-730	0	0	0	0	401	26	21	0	71	38	344	0
730-745	0	0	0	0	425	24	29	0	79	69	357	0
745-800	0	0	0	0	469	15	25	0	84	78	361	0
800-815	0	0	0	0	451	10	29	0	90	69	353	0
815-830	0	0	0	0	431	17	26	0	78	58	341	0
830-845	0	0	0	0	428	18	24	0	58	59	335	0
845-900	0	0	0	0	442	20	18	0	66	72	354	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	0	0	0	0	1669	85	89	0	295	225	1376	0	3739
715-815	0	0	0	0	1746	75	104	0	324	254	1415	0	3918
730-830	0	0	0	0	1776	66	109	0	331	274	1412	0	3968
745-845	0	0	0	0	1779	60	104	0	310	264	1390	0	3907
800-900	0	0	0	0	1752	65	97	0	292	258	1383	0	3847

A.M. PEAK HOUR
0730-0830



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

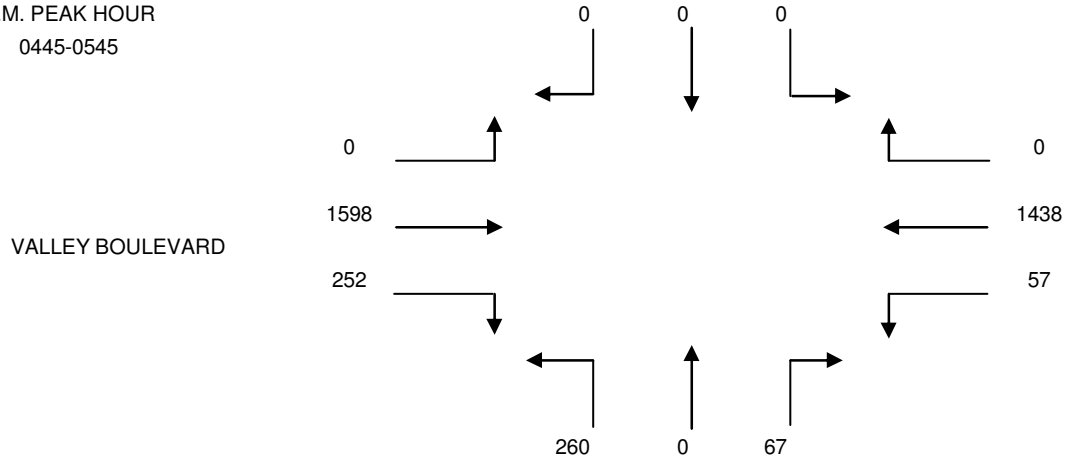
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION N/S SAN ANGELO AVENUE
E/W VALLEY BOULEVARD
FILE NUMBER: 1-PM1

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	0	0	0	0	321	11	13	0	67	69	334	0
415-430	0	0	0	0	338	9	15	0	56	66	354	0
430-445	0	0	0	0	348	11	18	0	58	57	397	0
445-500	0	0	0	0	354	15	13	0	66	57	387	0
500-515	0	0	0	0	351	18	15	0	71	66	402	0
515-530	0	0	0	0	384	9	18	0	58	71	398	0
530-545	0	0	0	0	349	15	21	0	65	58	411	0
545-600	0	0	0	0	321	18	14	0	79	59	399	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	0	0	0	0	1361	46	59	0	247	249	1472	0	3434
415-515	0	0	0	0	1391	53	61	0	251	246	1540	0	3542
430-530	0	0	0	0	1437	53	64	0	253	251	1584	0	3642
445-545	0	0	0	0	1438	57	67	0	260	252	1598	0	3672
500-600	0	0	0	0	1405	60	68	0	273	254	1610	0	3670

P.M. PEAK HOUR
0445-0545



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ARCADIA, CALIFORNIA 91006
626.446.7978

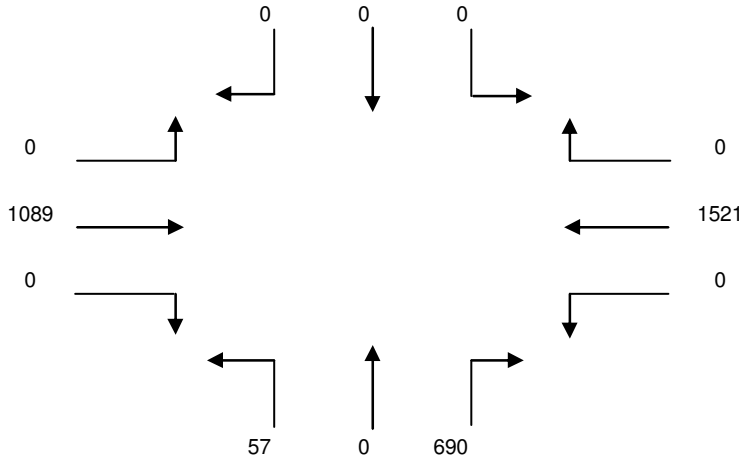
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION N/S I-605 SB OFF RAMP
E/W VALLEY BOULEVARD
FILE NUMBER: 2-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	0	0	0	0	334	0	167	0	12	0	220	0
715-730	0	0	0	0	363	0	171	0	14	0	264	0
730-745	0	0	0	0	390	0	195	0	19	0	273	0
745-800	0	0	0	0	384	0	175	0	15	0	261	0
800-815	0	0	0	0	368	0	154	0	10	0	280	0
815-830	0	0	0	0	379	0	166	0	13	0	275	0
830-845	0	0	0	0	375	0	168	0	15	0	255	0
845-900	0	0	0	0	364	0	176	0	11	0	262	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	0	0	0	0	1471	0	708	0	60	0	1018	0	3257
715-815	0	0	0	0	1505	0	695	0	58	0	1078	0	3336
730-830	0	0	0	0	1521	0	690	0	57	0	1089	0	3357
745-845	0	0	0	0	1506	0	663	0	53	0	1071	0	3293
800-900	0	0	0	0	1486	0	664	0	49	0	1072	0	3271

A.M. PEAK HOUR
0730-0830



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

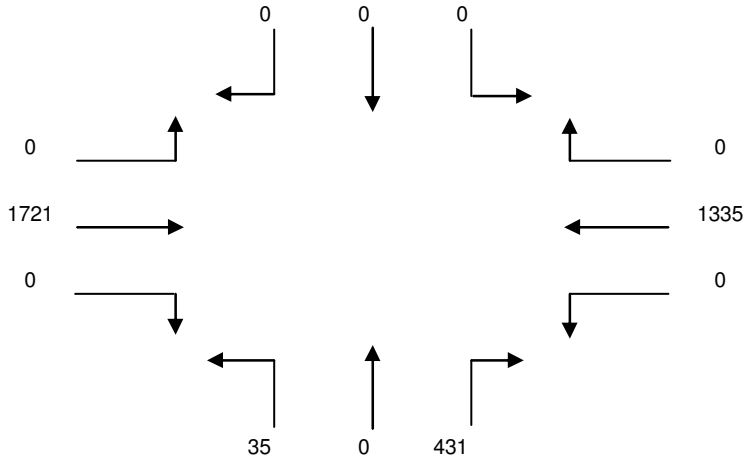
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION N/S I-605 SB OFF RAMP (FREE RIGHT)
E/W VALLEY BOULEVARD
FILE NUMBER: 2-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	0	0	0	0	297	0	88	0	12	0	352	0
415-430	0	0	0	0	322	0	97	0	8	0	408	0
430-445	0	0	0	0	335	0	107	0	6	0	440	0
445-500	0	0	0	0	315	0	115	0	10	0	417	0
500-515	0	0	0	0	334	0	109	0	8	0	433	0
515-530	0	0	0	0	351	0	100	0	11	0	431	0
530-545	0	0	0	0	349	0	95	0	9	0	435	0
545-600	0	0	0	0	324	0	101	0	6	0	410	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	0	0	0	0	1269	0	407	0	36	0	1617	0	3329
415-515	0	0	0	0	1306	0	428	0	32	0	1698	0	3464
430-530	0	0	0	0	1335	0	431	0	35	0	1721	0	3522
445-545	0	0	0	0	1349	0	419	0	38	0	1716	0	3522
500-600	0	0	0	0	1358	0	405	0	34	0	1709	0	3506

P.M. PEAK HOUR
0430-0530



I-605 SB OFF RAMP (FREE RIGHT)

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

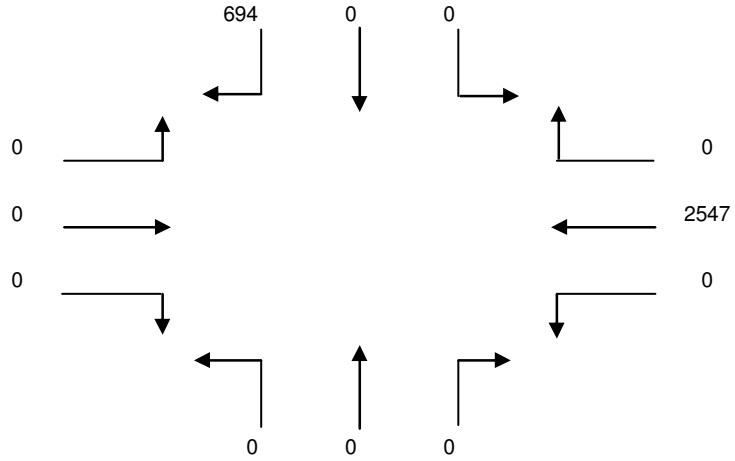
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PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION N/S I-605 NB / SB ON RAMP
E/W VALLEY BOULEVARD
FILE NUMBER: 3-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	154	0	0	0	588	0	0	0	0	0	0
715-730	189	0	0	0	636	0	0	0	0	0	0
730-745	161	0	0	0	583	0	0	0	0	0	0
745-800	152	0	0	0	683	0	0	0	0	0	0
800-815	192	0	0	0	645	0	0	0	0	0	0
815-830	162	0	0	0	599	0	0	0	0	0	0
830-845	127	0	0	0	623	0	0	0	0	0	0
845-900	146	0	0	0	567	0	0	0	0	0	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	656	0	0	0	2490	0	0	0	0	0	0	3146
715-815	694	0	0	0	2547	0	0	0	0	0	0	3241
730-830	667	0	0	0	2510	0	0	0	0	0	0	3177
745-845	633	0	0	0	2550	0	0	0	0	0	0	3183
800-900	627	0	0	0	2434	0	0	0	0	0	0	3061

A.M. PEAK HOUR
0715-0815



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

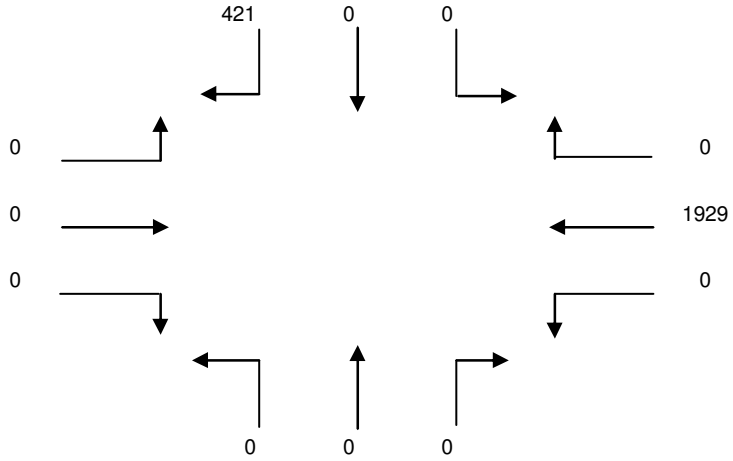
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION N/S I-605 NB / SB ON RAMP
E/W VALLEY BOULEVARD
FILE NUMBER: 3-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	101	0	0	0	419	0	0	0	0	0	0
415-430	89	0	0	0	456	0	0	0	0	0	0
430-445	116	0	0	0	467	0	0	0	0	0	0
445-500	119	0	0	0	511	0	0	0	0	0	0
500-515	87	0	0	0	474	0	0	0	0	0	0
515-530	99	0	0	0	477	0	0	0	0	0	0
530-545	102	0	0	0	463	0	0	0	0	0	0
545-600	104	0	0	0	469	0	0	0	0	0	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	425	0	0	0	1853	0	0	0	0	0	0	2278
415-515	411	0	0	0	1908	0	0	0	0	0	0	2319
430-530	421	0	0	0	1929	0	0	0	0	0	0	2350
445-545	407	0	0	0	1925	0	0	0	0	0	0	2332
500-600	392	0	0	0	1883	0	0	0	0	0	0	2275

P.M. PEAK HOUR
0430-0530



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

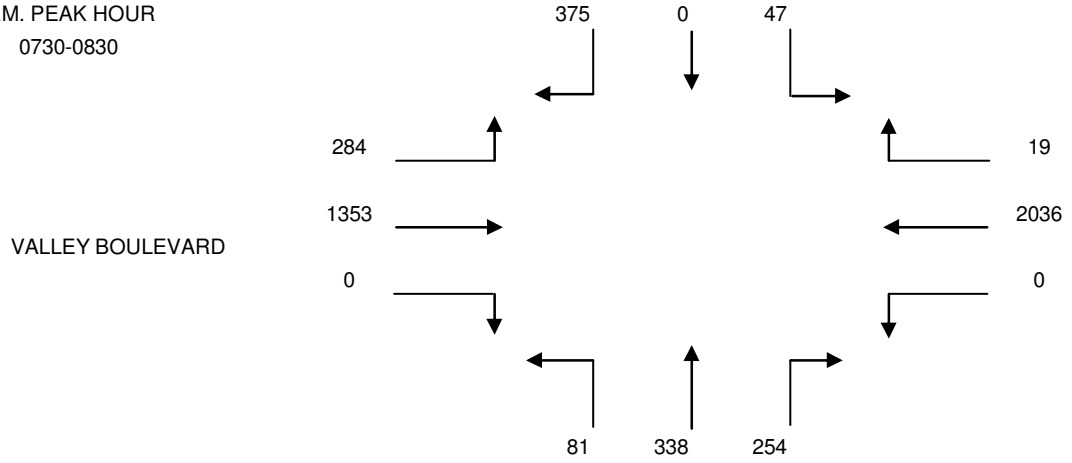
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION N/S TEMPLE AVENUE / I-605 NB OFF RAMP
E/W VALLEY BOULEVARD
FILE NUMBER: 4-AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	86	0	6	3	488	0	56	69	18	0	320	76
715-730	105	0	7	5	506	0	65	78	20	0	312	56
730-745	102	0	15	7	482	0	62	87	21	0	340	78
745-800	104	0	9	4	516	0	59	84	17	0	327	70
800-815	98	0	9	3	518	0	64	90	24	0	361	65
815-830	71	0	14	5	520	0	69	77	19	0	325	71
830-845	90	0	11	3	496	0	56	82	25	0	309	63
845-900	73	0	10	6	452	0	64	79	21	0	324	35

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	397	0	37	19	1992	0	242	318	76	0	1299	280	4660
715-815	409	0	40	19	2022	0	250	339	82	0	1340	269	4770
730-830	375	0	47	19	2036	0	254	338	81	0	1353	284	4787
745-845	363	0	43	15	2050	0	248	333	85	0	1322	269	4728
800-900	332	0	44	17	1986	0	253	328	89	0	1319	234	4602

A.M. PEAK HOUR
0730-0830



TEMPLE AVENUE / I-605 NB OFF RAMP

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

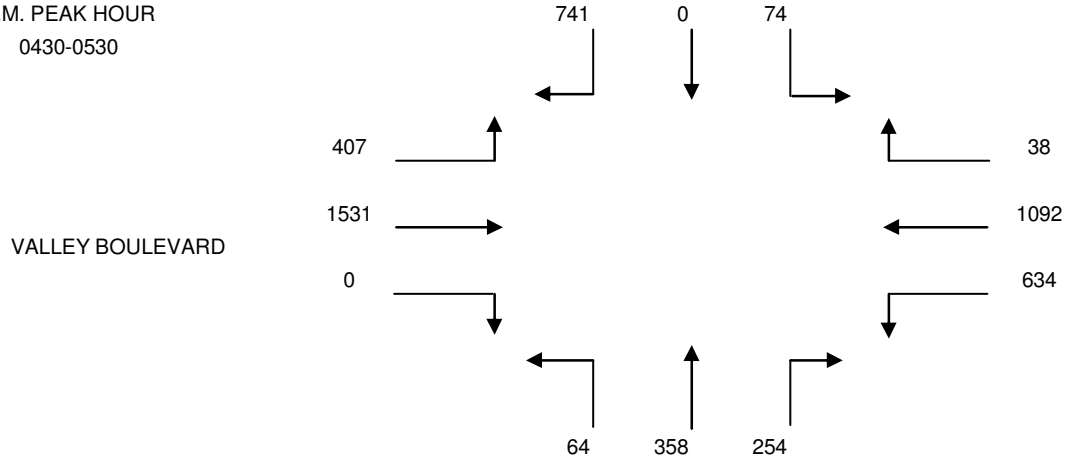
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION N/S TEMPLE STREET / I-605 NB OFF RAMP
E/W VALLEY BOULEVARD
FILE NUMBER: 4-PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	188	0	17	8	230	145	50	109	16	0	333	103
415-430	189	0	11	6	243	150	61	99	17	0	353	95
430-445	196	0	19	11	263	149	50	101	14	0	382	113
445-500	206	0	21	9	259	174	77	94	16	0	409	87
500-515	168	0	17	7	281	143	52	74	15	0	376	102
515-530	171	0	17	11	289	168	75	89	19	0	364	105
530-545	196	0	19	12	265	125	64	98	16	0	389	111
545-600	182	0	17	15	253	142	66	81	11	0	386	106

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	779	0	68	34	995	618	238	403	63	0	1477	398	5073
415-515	759	0	68	33	1046	616	240	368	62	0	1520	397	5109
430-530	741	0	74	38	1092	634	254	358	64	0	1531	407	5193
445-545	741	0	74	39	1094	610	268	355	66	0	1538	405	5190
500-600	717	0	70	45	1088	578	257	342	61	0	1515	424	5097

P.M. PEAK HOUR
0430-0530



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

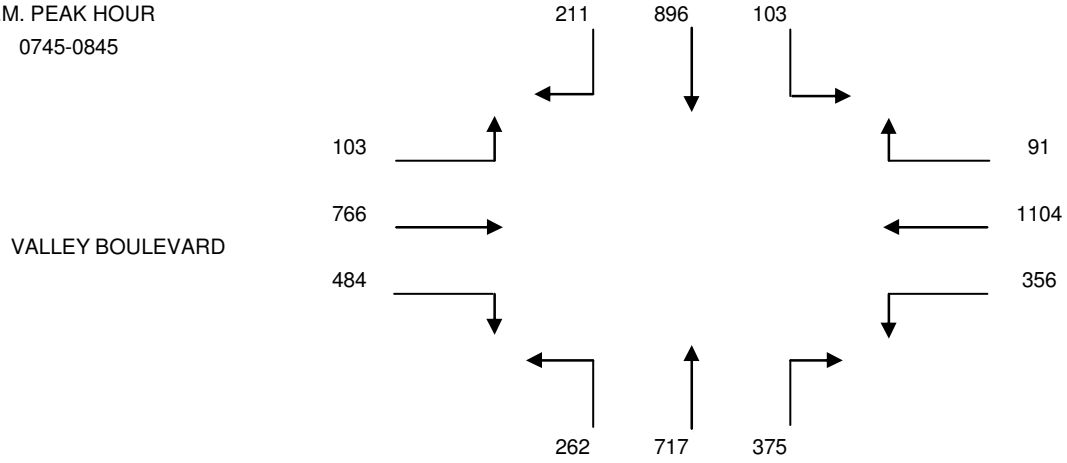
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC. / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION N/S DURFEE AVENUE
E/W VALLEY BOULEVARD
FILE NUMBER: 5-AM1

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
700-715	15	111	39	29	276	79	46	79	39	22	139	27
715-730	24	169	36	31	259	97	66	124	42	54	156	29
730-745	39	176	31	28	228	88	84	149	56	99	192	32
745-800	52	208	29	21	279	84	100	179	67	121	194	21
800-815	56	224	28	24	286	96	111	183	73	134	206	32
815-830	54	231	20	20	291	99	81	174	64	118	175	26
830-845	49	233	26	26	248	77	83	181	58	111	191	24
845-900	45	197	33	22	270	85	97	167	55	101	200	27

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
700-800	130	664	135	109	1042	348	296	531	204	296	681	109	4545
715-815	171	777	124	104	1052	365	361	635	238	408	748	114	5097
730-830	201	839	108	93	1084	367	376	685	260	472	767	111	5363
745-845	211	896	103	91	1104	356	375	717	262	484	766	103	5468
800-900	204	885	107	92	1095	357	372	705	250	464	772	109	5412

A.M. PEAK HOUR
0745-0845



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

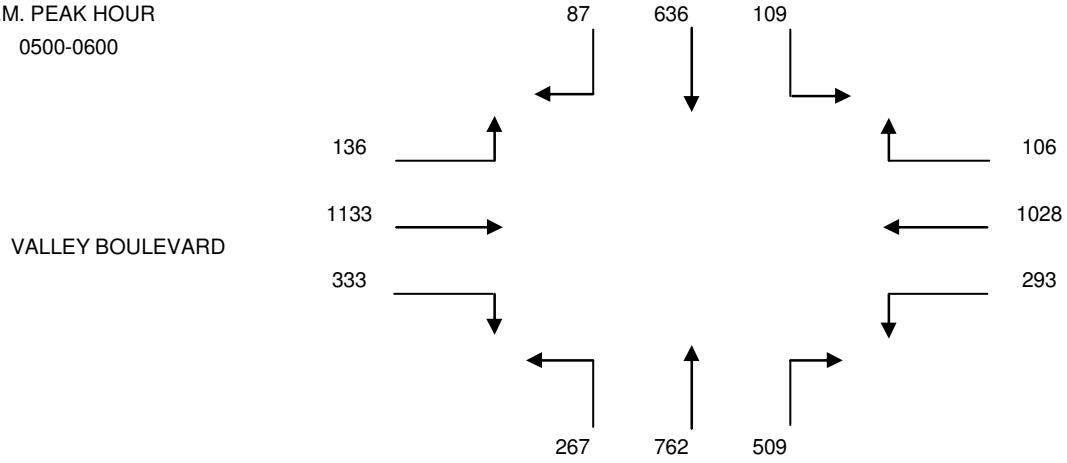
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR AND PEERS, INC . / KAKU ASSOCIATES, INC.
PROJECT: CITY OF INDUSTRY
DATE: WEDNESDAY, JANUARY 10, 2007
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION N/S DURFEE AVENUE
E/W VALLEY BOULEVARD
FILE NUMBER: 5-PM1

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
400-415	16	146	22	22	239	61	111	162	47	66	231	27
415-430	14	137	24	24	248	63	128	174	62	57	272	36
430-445	21	158	25	25	255	66	131	181	66	88	286	41
445-500	22	149	19	24	223	72	128	169	71	74	302	38
500-515	14	162	28	29	284	68	141	194	59	78	289	36
515-530	25	144	31	25	259	81	102	187	66	102	301	37
530-545	24	171	25	22	239	75	132	202	68	81	279	26
545-600	24	159	25	30	246	69	134	179	74	72	264	37

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
400-500	73	590	90	95	965	262	498	686	246	285	1091	142	5023
415-515	71	606	96	102	1010	269	528	718	258	297	1149	151	5255
430-530	82	613	103	103	1021	287	502	731	262	342	1178	152	5376
445-545	85	626	103	100	1005	296	503	752	264	335	1171	137	5377
500-600	87	636	109	106	1028	293	509	762	267	333	1133	136	5399

P.M. PEAK HOUR
0500-0600



THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91006
626.446.7978

APPENDIX C

INTERSECTION LEVEL OF SERVICE WORKSHEETS

EXISTING CONDITIONS

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **SAN ANGELO AV AND VALLEY BL**
Description: **EXISTING CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.027
	TH	0.00	0	0	0.000 *	N-S(2):	0.207 *
	LT	0.00	0	0	0.000	E-W(1):	0.392 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.370
	TH	3.00	1,776	4,800	0.370		
	LT	1.00	66	1,600	0.041 *	V/C:	0.599
Northbound	RT	1.00	109	1,600	0.027	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	331	1,600	0.207 *		
Eastbound	RT	0.00	274	0	0.000	ICU:	0.699
	TH	3.00	1,412	4,800	0.351 *		
	LT	0.00	0	0	0.000	LOS:	B

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.006
	TH	0.00	0	0	0.000 *	N-S(2):	0.163 *
	LT	0.00	0	0	0.000	E-W(1):	0.421 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.300
	TH	3.00	1,438	4,800	0.300		
	LT	1.00	57	1,600	0.036 *	V/C:	0.584
Northbound	RT	1.00	67	1,600	0.006	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	260	1,600	0.163 *		
Eastbound	RT	0.00	252	0	0.000	ICU:	0.684
	TH	3.00	1,598	4,800	0.385 *		
	LT	0.00	0	0	0.000	LOS:	B

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 SB OFFRAMP AND VALLEY BL**
Description: **EXISTING CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.431 *
	TH	0.00	0	0	0.000	N-S(2):	0.036
	LT	0.00	0	0	0.000 *	E-W(1):	0.340
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.475 *
	TH	2.00	1,521	3,200	0.475 *		
	LT	0.00	0	0	0.000	V/C:	0.906
Northbound	RT	1.00	690	1,600	0.431 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	57	1,600	0.036		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.006
	TH	2.00	1,089	3,200	0.340		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.269 *
	TH	0.00	0	0	0.000	N-S(2):	0.022
	LT	0.00	0	0	0.000 *	E-W(1):	0.538 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.417
	TH	2.00	1,335	3,200	0.417		
	LT	0.00	0	0	0.000 *	V/C:	0.807
Northbound	RT	1.00	431	1,600	0.269 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	35	1,600	0.022		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.907
	TH	2.00	1,721	3,200	0.538 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 48.3 Worst Case Level Of Service: F[217.3]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	57	0	690	0	0	0	0	1089	0	0	1521	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	0	690	0	0	0	0	1089	0	0	1521	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	0	690	0	0	0	0	1089	0	0	1521	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	57	0	690	0	0	0	0	1089	0	0	1521	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1850	xxxx	545	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	67	xxxx	488	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	67	xxxx	488	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.85	xxxx	1.41	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.0	xxxx	33.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	170.6	xxxx	221.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	217.3			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 33.8 Worst Case Level Of Service: F[255.5]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	35	0	431	0	0	0	0	1721	0	0	1335	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	0	431	0	0	0	0	1721	0	0	1335	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	0	431	0	0	0	0	1721	0	0	1335	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	35	0	431	0	0	0	0	1721	0	0	1335	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2389	xxxx	861	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	29	xxxx	303	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	29	xxxx	303	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	1.20	xxxx	1.42	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.0	xxxx	23.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	437.6	xxxx	240.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	255.5			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB/SB ONRAMP AND VALLEY BL**
Description: **EXISTING CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	694	1,600	0.434 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.434 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.796 *
	TH	2.00	2,547	3,200	0.796 *		
	LT	0.00	0	0	0.000	V/C:	1.230
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.330
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	421	1,600	0.263 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.263 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.603 *
	TH	2.00	1,929	3,200	0.603 *		
	LT	0.00	0	0	0.000	V/C:	0.866
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.966
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 237.9 Worst Case Level Of Service: F[1111.0]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Yield Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0 0	0 1		0 0 0	0 0	0	0 0 2	0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	694	0	0	0	0	2547	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	694	0	0	0	0	2547	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	694	0	0	0	0	2547	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	694	0	0	0	0	2547	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	1274	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	206	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	206	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	3.36	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	65.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	1111	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	F	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1111.0			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 37.6 Worst Case Level Of Service: F[209.7]

Street Name:	I-605 SB Offramp								Valley Bl							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Yield Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	0	0 0	0	0	2	0 0
Volume Module:																
Base Vol:	0	0	0	0	0	0	421		0	0	0	0	1929		0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Initial Bse:	0	0	0	0	0	0	421		0	0	0	0	1929		0	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
PHF Volume:	0	0	0	0	0	0	421		0	0	0	0	1929		0	
Reduct Vol:	0	0	0	0	0	0	0		0	0	0	0	0		0	
FinalVolume:	0	0	0	0	0	0	421		0	0	0	0	1929		0	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		6.2		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx		965		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx		312		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx		312		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx		1.35		xxxx	xxxx	xxxx	xxxx	xxxx		xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx		21.1		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		209.7		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
LOS by Move:	*	*	*	*	*		F		*	*	*	*	*		*	
Movement:	LT -	LTR -	RT	LT -	LTR -	RT			LT -	LTR -	RT	LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*	*	*	*			*	*	*	*	*	*		
ApproachDel:	xxxxxx			209.7					xxxxxx			xxxxxx				
ApproachLOS:	*			F					*			*				

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB OFFRAMP / TEMPLE AV AND VALLEY BL**
Description: **EXISTING CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	Y
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	375	1,600	0.146 *	N-S(1):	0.408 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	47	1,600	0.029	E-W(1):	0.282
Westbound	RT	0.00	19	0	0.000	E-W(2):	0.432 *
	TH	4.00	2,036	6,400	0.321 *		
	LT	0.00	0	0	0.000	V/C:	0.840
Northbound	RT	1.00	254	1,600	0.159	Lost Time:	0.100
	TH	1.00	338	1,600	0.262 *		
	LT	0.00	81	1,600	0.051		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.940
	TH	3.00	1,353	4,800	0.282		
	LT	2.00	284	2,560	0.111 *	LOS:	E

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	741	1,600	0.336 *	N-S(1):	0.600 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	74	1,600	0.046	E-W(1):	0.715 *
Westbound	RT	0.00	38	0	0.000	E-W(2):	0.527
	TH	4.00	1,092	4,800	0.368		
	LT	0.00	634	1,600	0.396 *	V/C:	1.315
Northbound	RT	1.00	254	1,600	0.000	Lost Time:	0.100
	TH	1.00	358	1,600	0.264 *		
	LT	0.00	64	1,600	0.040		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.415
	TH	3.00	1,531	4,800	0.319 *		
	LT	2.00	407	2,560	0.159	LOS:	F

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **DURFEE AV AND VALLEY BL**
Description: **EXISTING CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	211	1,600	0.068	N-S(1):	0.288
	TH	2.00	896	3,200	0.280 *	N-S(2):	0.444 *
	LT	1.00	103	1,600	0.064	E-W(1):	0.614 *
Westbound	RT	0.00	91	0	0.000	E-W(2):	0.437
	TH	2.00	1,104	3,200	0.373		
	LT	1.00	356	1,600	0.223 *	V/C:	1.058
Northbound	RT	1.00	375	1,600	0.012	Lost Time:	0.100
	TH	2.00	717	3,200	0.224		
	LT	1.00	262	1,600	0.164 *		
Eastbound	RT	0.00	484	0	0.000	ICU:	1.158
	TH	2.00	766	3,200	0.391 *		
	LT	1.00	103	1,600	0.064	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	87	1,600	0.000	N-S(1):	0.306
	TH	2.00	636	3,200	0.199 *	N-S(2):	0.366 *
	LT	1.00	109	1,600	0.068	E-W(1):	0.641 *
Westbound	RT	0.00	106	0	0.000	E-W(2):	0.439
	TH	2.00	1,028	3,200	0.354		
	LT	1.00	293	1,600	0.183 *	V/C:	1.007
Northbound	RT	1.00	509	1,600	0.135	Lost Time:	0.100
	TH	2.00	762	3,200	0.238		
	LT	1.00	267	1,600	0.167 *		
Eastbound	RT	0.00	333	0	0.000	ICU:	1.107
	TH	2.00	1,133	3,200	0.458 *		
	LT	1.00	136	1,600	0.085	LOS:	F

* - Denotes critical movement

CUMULATIVE BASE CONDITIONS

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **SAN ANGELO AV AND VALLEY BL**
Description: **CUMULATIVE BASE CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.028
	TH	0.00	0	0	0.000 *	N-S(2):	0.211 *
	LT	0.00	0	0	0.000	E-W(1):	0.400 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.378
	TH	3.00	1,812	4,800	0.378		
	LT	1.00	67	1,600	0.042 *	V/C:	0.611
Northbound	RT	1.00	111	1,600	0.028	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	338	1,600	0.211 *		
Eastbound	RT	0.00	279	0	0.000	ICU:	0.711
	TH	3.00	1,440	4,800	0.358 *		
	LT	0.00	0	0	0.000	LOS:	C

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.006
	TH	0.00	0	0	0.000 *	N-S(2):	0.166 *
	LT	0.00	0	0	0.000	E-W(1):	0.429 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.306
	TH	3.00	1,467	4,800	0.306		
	LT	1.00	58	1,600	0.036 *	V/C:	0.595
Northbound	RT	1.00	68	1,600	0.006	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	265	1,600	0.166 *		
Eastbound	RT	0.00	257	0	0.000	ICU:	0.695
	TH	3.00	1,630	4,800	0.393 *		
	LT	0.00	0	0	0.000	LOS:	B

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 SB OFFRAMP AND VALLEY BL**
Description: **CUMULATIVE BASE CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.440 *
	TH	0.00	0	0	0.000	N-S(2):	0.036
	LT	0.00	0	0	0.000 *	E-W(1):	0.347
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.485 *
	TH	2.00	1,551	3,200	0.485 *		
	LT	0.00	0	0	0.000	V/C:	0.925
Northbound	RT	1.00	704	1,600	0.440 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	58	1,600	0.036		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.025
	TH	2.00	1,111	3,200	0.347		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.275 *
	TH	0.00	0	0	0.000	N-S(2):	0.023
	LT	0.00	0	0	0.000 *	E-W(1):	0.548 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.426
	TH	2.00	1,362	3,200	0.426		
	LT	0.00	0	0	0.000 *	V/C:	0.823
Northbound	RT	1.00	440	1,600	0.275 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	36	1,600	0.023		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.923
	TH	2.00	1,755	3,200	0.548 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 53.4 Worst Case Level Of Service: F[240.1]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	58	0	704	0	0	0	0	1111	0	0	1551	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	704	0	0	0	0	1111	0	0	1551	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	0	704	0	0	0	0	1111	0	0	1551	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	58	0	704	0	0	0	0	1111	0	0	1551	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1887	xxxx	556	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	64	xxxx	480	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	64	xxxx	480	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.91	xxxx	1.47	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.3	xxxx	35.4	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	195.3	xxxx	243.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	240.1			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 38.1 Worst Case Level Of Service: F[287.7]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	36	0	440	0	0	0	0	1755	0	0	1362	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	440	0	0	0	0	1755	0	0	1362	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	0	440	0	0	0	0	1755	0	0	1362	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	36	0	440	0	0	0	0	1755	0	0	1362	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2436	xxxx	878	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	27	xxxx	295	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	27	xxxx	295	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	1.33	xxxx	1.49	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.3	xxxx	24.7	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	506.5	xxxx	269.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	287.7			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB/SB ONRAMP AND VALLEY BL**
Description: **CUMULATIVE BASE CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	708	1,600	0.443 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.443 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.812 *
	TH	2.00	2,598	3,200	0.812 *		
	LT	0.00	0	0	0.000	V/C:	1.255
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.355
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	429	1,600	0.268 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.268 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.615 *
	TH	2.00	1,968	3,200	0.615 *		
	LT	0.00	0	0	0.000	V/C:	0.883
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.983
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 256.3 Worst Case Level Of Service: F[1196.6]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Yield Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0 0	0 1		0 0 0	0 0	0	0 0 2	0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	708	0	0	0	0	2598	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	708	0	0	0	0	2598	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	708	0	0	0	0	2598	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	708	0	0	0	0	2598	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	1299	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	199	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	199	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	3.55	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	67.5	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	1197	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	F	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1196.6			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 42.2 Worst Case Level Of Service: F[235.9]

Street Name:	I-605 SB Offramp								Valley Bl							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Yield Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	0	0 0	0	0	2	0 0
Volume Module:																
Base Vol:	0	0	0	0	0	0	429		0	0	0	0	1968		0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
Initial Bse:	0	0	0	0	0	0	429		0	0	0	0	1968		0	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	
PHF Volume:	0	0	0	0	0	0	429		0	0	0	0	1968		0	
Reduct Vol:	0	0	0	0	0	0	0		0	0	0	0	0		0	
FinalVolume:	0	0	0	0	0	0	429		0	0	0	0	1968		0	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		6.2		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx		984		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx		304		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx		304		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx		1.41		xxxx	xxxx	xxxx	xxxx	xxxx		xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx		22.7		xxxx	xxxx	xxxxx	xxxx	xxxx		xxxxx	
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx		235.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx		xxxxx	
LOS by Move:	*	*	*	*	*		F		*	*	*	*	*		*	
Movement:	LT -	LTR -	RT	LT -	LTR -	RT			LT -	LTR -	RT	LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*	*	*	*			*	*	*	*	*	*		
ApproachDel:	xxxxxx			235.9					xxxxxx			xxxxxx				
ApproachLOS:	*			F					*			*				

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB OFFRAMP / TEMPLE AV AND VALLEY BL**
Description: **CUMULATIVE BASE CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	y
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	383	1,600	0.149 *	N-S(1):	0.417 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	48	1,600	0.030	E-W(1):	0.288
Westbound	RT	0.00	19	0	0.000	E-W(2):	0.441 *
	TH	4.00	2,077	6,400	0.328 *		
	LT	0.00	0	0	0.000	V/C:	0.858
Northbound	RT	1.00	259	1,600	0.162	Lost Time:	0.100
	TH	1.00	345	1,600	0.268 *		
	LT	0.00	83	1,600	0.052		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.958
	TH	3.00	1,380	4,800	0.288		
	LT	2.00	290	2,560	0.113 *	LOS:	E

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	756	1,600	0.343 *	N-S(1):	0.612 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	75	1,600	0.047	E-W(1):	0.729 *
Westbound	RT	0.00	39	0	0.000	E-W(2):	0.537
	TH	4.00	1,114	4,800	0.375		
	LT	0.00	647	1,600	0.404 *	V/C:	1.341
Northbound	RT	1.00	259	1,600	0.000	Lost Time:	0.100
	TH	1.00	365	1,600	0.269 *		
	LT	0.00	65	1,600	0.041		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.441
	TH	3.00	1,562	4,800	0.325 *		
	LT	2.00	415	2,560	0.162	LOS:	F

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **DURFEE AV AND VALLEY BL**
Description: **CUMULATIVE BASE CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	215	1,600	0.069	N-S(1):	0.294
	TH	2.00	914	3,200	0.286 *	N-S(2):	0.453 *
	LT	1.00	105	1,600	0.066	E-W(1):	0.625 *
Westbound	RT	0.00	93	0	0.000	E-W(2):	0.447
	TH	2.00	1,126	3,200	0.381		
	LT	1.00	363	1,600	0.227 *	V/C:	1.078
Northbound	RT	1.00	383	1,600	0.013	Lost Time:	0.100
	TH	2.00	731	3,200	0.228		
	LT	1.00	267	1,600	0.167 *		
Eastbound	RT	0.00	494	0	0.000	ICU:	1.178
	TH	2.00	781	3,200	0.398 *		
	LT	1.00	105	1,600	0.066	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	89	1,600	0.000	N-S(1):	0.312
	TH	2.00	649	3,200	0.203 *	N-S(2):	0.373 *
	LT	1.00	111	1,600	0.069	E-W(1):	0.655 *
Westbound	RT	0.00	108	0	0.000	E-W(2):	0.449
	TH	2.00	1,049	3,200	0.362		
	LT	1.00	299	1,600	0.187 *	V/C:	1.028
Northbound	RT	1.00	519	1,600	0.138	Lost Time:	0.100
	TH	2.00	777	3,200	0.243		
	LT	1.00	272	1,600	0.170 *		
Eastbound	RT	0.00	340	0	0.000	ICU:	1.128
	TH	2.00	1,156	3,200	0.468 *		
	LT	1.00	139	1,600	0.087	LOS:	F

* - Denotes critical movement

CUMULATIVE PLUS PROJECT CONDITIONS

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **SAN ANGELO AV AND VALLEY BL**
Description: **CUMULATIVE PLUS PROJECT CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.028
	TH	0.00	0	0	0.000 *	N-S(2):	0.218 *
	LT	0.00	0	0	0.000	E-W(1):	0.404 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.378
	TH	3.00	1,812	4,800	0.378		
	LT	1.00	70	1,600	0.044 *	V/C:	0.622
Northbound	RT	1.00	114	1,600	0.028	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	348	1,600	0.218 *		
Eastbound	RT	0.00	290	0	0.000	ICU:	0.722
	TH	3.00	1,440	4,800	0.360 *		
	LT	0.00	0	0	0.000	LOS:	C

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.006
	TH	0.00	0	0	0.000 *	N-S(2):	0.171 *
	LT	0.00	0	0	0.000	E-W(1):	0.433 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.306
	TH	3.00	1,467	4,800	0.306		
	LT	1.00	60	1,600	0.038 *	V/C:	0.604
Northbound	RT	1.00	70	1,600	0.006	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	273	1,600	0.171 *		
Eastbound	RT	0.00	264	0	0.000	ICU:	0.704
	TH	3.00	1,630	4,800	0.395 *		
	LT	0.00	0	0	0.000	LOS:	C

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 SB OFFRAMP AND VALLEY BL**
Description: **CUMULATIVE PLUS PROJECT CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.441 *
	TH	0.00	0	0	0.000	N-S(2):	0.036
	LT	0.00	0	0	0.000 *	E-W(1):	0.349
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.487 *
	TH	2.00	1,557	3,200	0.487 *		
	LT	0.00	0	0	0.000	V/C:	0.928
Northbound	RT	1.00	706	1,600	0.441 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	58	1,600	0.036		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.028
	TH	2.00	1,118	3,200	0.349		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	0.00	0	0	0.000	N-S(1):	0.276 *
	TH	0.00	0	0	0.000	N-S(2):	0.023
	LT	0.00	0	0	0.000 *	E-W(1):	0.550 *
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.427
	TH	2.00	1,367	3,200	0.427		
	LT	0.00	0	0	0.000 *	V/C:	0.826
Northbound	RT	1.00	441	1,600	0.276 *	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	1.00	36	1,600	0.023		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.926
	TH	2.00	1,759	3,200	0.550 *		
	LT	0.00	0	0	0.000	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 54.5 Worst Case Level Of Service: F[245.4]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	58	0	706	0	0	0	0	1118	0	0	1557	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	706	0	0	0	0	1118	0	0	1557	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	0	706	0	0	0	0	1118	0	0	1557	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	58	0	706	0	0	0	0	1118	0	0	1557	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1897	xxxx	559	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	63	xxxx	478	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	63	xxxx	478	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.93	xxxx	1.48	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.4	xxxx	35.9	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	201.3	xxxx	249.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	245.4			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Int 2

Average Delay (sec/veh): 38.6 Worst Case Level Of Service: F[291.5]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 0 0			0 0 2 0 0		
Volume Module:												
Base Vol:	36	0	441	0	0	0	0	1759	0	0	1367	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	0	441	0	0	0	0	1759	0	0	1367	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	0	441	0	0	0	0	1759	0	0	1367	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	36	0	441	0	0	0	0	1759	0	0	1367	0
Critical Gap Module:												
Critical Gp:	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2443	xxxx	880	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	27	xxxx	294	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	27	xxxx	294	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	1.35	xxxx	1.50	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	4.3	xxxx	24.9	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	514.6	xxxx	273.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	F	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	291.5			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB/SB ONRAMP AND VALLEY BL**
Description: **CUMULATIVE PLUS PROJECT CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	708	1,600	0.443 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.443 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.813 *
	TH	2.00	2,602	3,200	0.813 *		
	LT	0.00	0	0	0.000	V/C:	1.256
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.356
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	429	1,600	0.268 *	N-S(1):	0.000
	TH	0.00	0	0	0.000	N-S(2):	0.268 *
	LT	0.00	0	0	0.000	E-W(1):	0.000
Westbound	RT	0.00	0	0	0.000	E-W(2):	0.616 *
	TH	2.00	1,971	3,200	0.616 *		
	LT	0.00	0	0	0.000	V/C:	0.884
Northbound	RT	0.00	0	0	0.000	Lost Time:	0.100
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.984
	TH	0.00	0	0	0.000		
	LT	0.00	0	0	0.000 *	LOS:	E

* - Denotes critical movement

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 256.9 Worst Case Level Of Service: F[1201.1]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Yield Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0 0	0 1		0 0 0	0 0	0	0 0 2	0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	708	0	0	0	0	2602	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	708	0	0	0	0	2602	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	708	0	0	0	0	2602	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	708	0	0	0	0	2602	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	1301	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	199	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	199	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	3.56	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	67.6	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	1201	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	F	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			1201.1			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Int 3

Average Delay (sec/veh): 42.4 Worst Case Level Of Service: F[237.2]

Street Name:	I-605 SB Offramp						Valley Bl					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Yield Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0 0	0 1		0 0 0	0 0	0	0 0 2	0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	429	0	0	0	0	1971	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	429	0	0	0	0	1971	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	429	0	0	0	0	1971	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	429	0	0	0	0	1971	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	986	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	304	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	304	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	1.41	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	22.8	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	237.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	F	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			237.2			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **I-605 NB OFFRAMP / TEMPLE AV AND VALLEY BL**
Description: **CUMULATIVE PLUS PROJECT CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	Y
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	383	1,600	0.149 *	N-S(1):	0.417 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	48	1,600	0.030	E-W(1):	0.289
Westbound	RT	0.00	19	0	0.000	E-W(2):	0.442 *
	TH	4.00	2,087	6,400	0.329 *		
	LT	0.00	0	0	0.000	V/C:	0.859
Northbound	RT	1.00	261	1,600	0.163	Lost Time:	0.100
	TH	1.00	345	1,600	0.268 *		
	LT	0.00	83	1,600	0.052		
Eastbound	RT	0.00	0	0	0.000	ICU:	0.959
	TH	3.00	1,389	4,800	0.289		
	LT	2.00	290	2,560	0.113 *	LOS:	E

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	756	1,600	0.343 *	N-S(1):	0.612 *
	TH	0.00	0	0	0.000	N-S(2):	0.000
	LT	1.00	75	1,600	0.047	E-W(1):	0.731 *
Westbound	RT	0.00	39	0	0.000	E-W(2):	0.539
	TH	4.00	1,122	4,800	0.377		
	LT	0.00	647	1,600	0.404 *	V/C:	1.343
Northbound	RT	1.00	260	1,600	0.000	Lost Time:	0.100
	TH	1.00	365	1,600	0.269 *		
	LT	0.00	65	1,600	0.041		
Eastbound	RT	0.00	0	0	0.000	ICU:	1.443
	TH	3.00	1,568	4,800	0.327 *		
	LT	2.00	415	2,560	0.162	LOS:	F

* - Denotes critical movement

Project Title: **TRAFFIC STUDY FOR THE DUCK FARM**
Intersection: **DURFEE AV AND VALLEY BL**
Description: **CUMULATIVE PLUS PROJECT CONDITIONS**

Date/Time: **AM PEAK HOUR (7:30-8:30)**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left Lane:	1600 vph	E-W Split Phase :	N
Double Lt Penalty:	20 %	Lost Time (% of cycle) :	10
ITS:	0 %	V/C Round Off (decs.) :	3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	215	1,600	0.069	N-S(1):	0.296
	TH	2.00	914	3,200	0.286 *	N-S(2):	0.453 *
	LT	1.00	108	1,600	0.068	E-W(1):	0.627 *
Westbound	RT	0.00	96	0	0.000	E-W(2):	0.449
	TH	2.00	1,129	3,200	0.383		
	LT	1.00	364	1,600	0.228 *	V/C:	1.080
Northbound	RT	1.00	384	1,600	0.013	Lost Time:	0.100
	TH	2.00	731	3,200	0.228		
	LT	1.00	267	1,600	0.167 *		
Eastbound	RT	0.00	494	0	0.000	ICU:	1.180
	TH	2.00	784	3,200	0.399 *		
	LT	1.00	105	1,600	0.066	LOS:	F

Date/Time: **PM PEAK HOUR (7:30-8:30)**

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS	
Southbound	RT	1.00	89	1,600	0.000	N-S(1):	0.314
	TH	2.00	649	3,200	0.203 *	N-S(2):	0.373 *
	LT	1.00	113	1,600	0.071	E-W(1):	0.656 *
Westbound	RT	0.00	110	0	0.000	E-W(2):	0.450
	TH	2.00	1,051	3,200	0.363		
	LT	1.00	300	1,600	0.188 *	V/C:	1.029
Northbound	RT	1.00	520	1,600	0.138	Lost Time:	0.100
	TH	2.00	777	3,200	0.243		
	LT	1.00	272	1,600	0.170 *		
Eastbound	RT	0.00	340	0	0.000	ICU:	1.129
	TH	2.00	1,158	3,200	0.468 *		
	LT	1.00	139	1,600	0.087	LOS:	F

* - Denotes critical movement