Example Application from HSIP-Cycle 5 and HR3-Cycle 3

12-Orange County-1

Countermeasures Used:

S6: Provide protected left turn phase (left turn lane already exists)
R1: Add segment lighting
R37: Install sidewalk/pathway (to avoid walking along roadway)

Primary reasons this application was selected to show as an Example:

- Great example of a corridor safety improvement project that benefits all modes of travel at intersections and segments along the corridor
- Road diets and providing protected left turn phases are often very cost effective countermeasures for both urban and rural safety projects
- The plan view of improvements is a good example of clearly showing the scope of the improvements without needing expensive engineering surveying or drafting

Changes needed for similar applications in future HSIP calls for projects:

- The use of Countermeasure #R37 is not appropriate in this application because there is already an existing sidewalk at this location
    - After Countermeasure #R37 was removed, the B/C ratio was still high enough for this project to be selected for funding
    - Instead of using Countermeasure #R37, the applicant could have had a much higher B/C ratio by using Countermeasure #R15 "Road diet", which impacts all modes of travel. Therefore all collisions can be included in the B/C ratio calculation for this countermeasure
    - Note in future Calls-for-Projects, applications with flaws such as this may not have the B/C ratio recalculated and may just be rejected as stated in the guidelines and application instructions
- The collision diagrams need to clearly show which countermeasures each collision is being applied to and include a total number of collisions (by collision severity) for each countermeasure

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROGRAM CYCLE 5 AND HIGH RISK RURAL ROADS (HR3) PROGRAM CYCLE 3

APPLICATION SUMMARY

After the application is finalized, please save this PDF form using the exact "Application ID" (shown below) as the file name.

This summary page is filled out automatically once the application is completed.

Application ID: 12-Orange County-1

Submitted By (Agency):
Orange County

Caltrans District	Application Number	Out of
12	1	1

Project Location

Gilbert Street between Katella Avenue and W. Ball Road

Project Description

Reconfigure lanes, upgrade traffic signals; underground the utilities, install street lights; install traffic signs, stripes, and pavement markings

Countermeasure 1: S6: Provide protected left turn phase (left turn lane already exists)

Countermeasure 2: R1: Add segment lighting

Countermeasure 3: R37: Install sidewalk/pathway (to avoid walking along roadway)

Total Expected Benefit 46,331,977 **Total Project Cost** $2,316,900.00

B/C Ratio: **20.00**

I. Basic Project Information

Date: Jul 20, 2012 Caltrans District: 12 MPO: SCAG

Agency: Orange County County: Orange County

Total number of applications being submitted by your agency: 1

Application Number (each application must have a unique number): 1

Contact Person Information

Name (*Last, First*): Joe Sarmiento

Position/Title of Contact Person: Interim Manager, Road Programs

Email: Joe.Sarmiento@ocpw.ocgov.com Telephone: (714) 245-4557 Extension:

Address: 300 N. Flower Street

City: Santa Ana Zip Code: CA 92703 (Enter only a 5-digit number.)

Project Information

Project Location
-Be Brief (limited to 250 characters)
-See Instructions

Gilbert Street between Katella Avenue and W. Ball Road

Project Description
-Be Brief (limited to 250 characters)
-See Instructions

Reconfigure lanes, upgrade traffic signals; underground the utilities, install street lights; install traffic signs, stripes, and pavement markings

Functional Classification: Minor Arterial (For Functional Classification and CRS Maps, Visit http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/)

CRS Map ID (e.g. 08E14): 14V51

Urban/Rural Area: Urban (Visit http://earth.dot.ca.gov/)

Eligible for HR3 Funding *(See Instructions)* No

Work on the State Highway System *(See Instructions)*

Does the project include improvements on the State Highway System? No

If no, move on to the next page; If yes, go to the below question.

Is this a joint-funded project with Caltrans?

☐ If yes, check this box to confirm a formal Letter of Support from Caltrans - District Traffic is attached to the application. The letter should include estimates of cost sharing.

☐ If no, check this box to confirm a written correspondence from Caltrans District Traffic is attached to the application. The correspondence should indicate that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit

Additional Information

1. Is the project focused primarily on “spot location” or “systemic” improvements? Systemic

The primary type of the "systemic" improvements: Add/Upgrade/Modify/Romove Traffic Signal

2. Which of the California's Strategic Highway Safety Plan (SHSP) Challenge Areas does the project address primarily? (For more information on the SHSP and its Challenge Areas, see: http://www.dot.ca.gov/SHSP/)

5: Improve Driver Decisions About Rights of Way and Turning

3. How were the safety needs and potential countermeasures for this project **first** identified?

Spot-location Safety Analysis/Road Safety Assessment

4. What is the primarily mode of travel intended to be benefited by this project?

Motorized users

5. Approximate percentage of project cost going to improvements related to **motorized** travel 50 %

6. Approximate percentage of project cost going to improvements related to **non-motorized** travel 50 %

7. Is the project focused primarily on "Intersection" or "Roadway" improvement?

Intersection

Number of Intersections 10

8. Posted Speed Limit (mph) 40

9. Average Daily Traffic *(See Instructions)*

ADT (Major Road)	ADT (Minor Road)	Year Collected
13,000	6,000	2012

II. Narrative Questions (See Instructions)

These narrative questions are intended to provide additional project details for the application reviewers and project files. Application reviewers will use the information in their "fatal flaw" assessment of the applications, including:

1) The project scope is eligible for HSIP and/or HR3 funding;
2) The countermeasures used in the B/C ratio calculation are appropriately applied based on the scope of the project;
3) The crash data used in the B/C ratio calculation is appropriately applied based on the scope of the project and countermeasures used;
4) The costs included in the application represent the likely total project cost necessary to fully construct the proposed scope. If the proposed project is a piece of a larger construction project, the entire scope of the larger project must be identified.
5) The application data and attachments are reasonable and meet generally accepted traffic engineering and transportation safety principles.

If significant inconsistencies or errors are found in the application information, the Caltrans reviewers may conclude that the application includes one or more "fatal flaws" and the application will be dropped from further funding considerations. The applicant will be notified of Caltrans findings until after the selection process is complete.

1. Overall Identification of Need

Describe how the agency identified the project as one of its top safety priorities. Was a data-driven, safety evaluation of their entire roadway network completed? (limited to 5,000 characters)

Gilbert Street is a minor arterial street that serves as a north-south connector between Katella Avenue and W. Ball Road. This 1-mile section of street is located mostly within the County of Orange unincorporated area. Approximately 2/3 of the westerly frontage is adjacent to the City of Anaheim, and a short section fronts the City of Stanton. This area is mainly residential. Gilbert Street crosses the Metrolink railroad tracks just south of Pacific Avenue. South of the intersection with Katella Avenue, the street crosses into the City of Garden Grove. North of the intersection with W. Ball Road, Gilbert Street crosses into the City of Anaheim. This street handles local traffic accessing the residential areas along the road, traffic that accesses commercial areas, and traffic going to Magnolia High School and Salk Elementary School during the school year. Attachment 1 is a vicinity map showing the area where this street is located.

County of Orange Engineering and Traffic Safety staff reviews the California Strategic Highway Safety Plans and the FHWA Transparency (5%) Reports to identify high priority safety projects. Collision data is also collected and summarized to identify roadway sections or intersections where patterns of crashes are observed. These collisions are then analyzed to determine if there are reasonable safety countermeasures which could be constructed to reduce or eliminate the collisions. The Transportation Injury Mapping System (TIMS) website developed by the Safe Transportation Research and Education Center (SafeTREC) at the University of California, Berkeley, is also used as another tool to identify high-priority safety projects.

The existing configuration of Gilbert Street between Katella Avenue and W. Ball Road consists of four travel lanes with left turn lanes at major intersections to accommodate turning vehicles and no dedicated left turn lanes at intermediate intersections. Parking is restricted on the east side of the street. The east side of Gilbert Street has a four-foot wide sidewalk, obstructed in some areas by utility poles and risers, fire hydrants, and other objects. The intersections with Chanticleer Road and Cerritos Avenue are signalized, but much of the signal equipment, such as the controllers, signal heads, back plates, pedestrian buttons and indications, is outdated and has reached the end of its service life, and needs to be upgraded to conform to the planned lane configuration. Attachment 2 includes photos showing the existing conditions.

The segment of Gilbert Street near the Harle Avenue intersection is identified on the California Transparency (5%) list as a section of roadway that is in need of safety improvements. Recently improvements were made at the Katella Avenue intersection using local funds, but no significant improvements have been made within the last five years to Gilbert Street. The County has been tracking collision data along Gilbert Street in the project area, and has observed that most of the crashes occur at intersections.

ADT on Gilbert Street ranges from 10,000 VPD to 13,000 VPD, with the higher volumes occurring between Guinida Lane and W. Ball

Road, adjacent to Magnolia High School. Although the school zone has a speed limit of 25 MPH when students are present, the speed limit is 40 MPH on other sections of Gilbert Street. The latest approved speed studies performed in August 2007 indicate an 85th percentile speed of 42 MPH. At intermediate signalized intersections, there are no dedicated left turn lanes; the signals provide a permissive left turn. The crashes between motor vehicles and pedestrians or bicycles demonstrate the presence of pedestrians and bicycles in the area, and indicate the need for improved sidewalks and bike facilities.

2. Potential for Proposed Improvements to Correct the Problem

Describe the primary causes of the collisions that have occurred within the project limits. Are there patterns in the crash types? Clearly demonstrate the connection between the problem and the proposed countermeasures utilized in the Benefit/Cost Ratio calculations. (limited to 5,000 characters)

Note: Safety improvements that do not have countermeasures and crash reduction factors identified in the TIMS B/C Calculator can be included in the project scope; they just won't be added to the project's B/C ratio shown in the application.

In the period between January 1, 2007 and May 30, 2012, 118 collisions occurred along Gilbert Street from Katella Ave. to W. Ball Road. Of those collisions, 44 crashes occurred at night, 38 involved vehicles turning left causing "broadside" type collisions, 15 were of the "sideswipe" type, and 12 were the "head-on" type, with "auto right-of-way violation", "improper turning", and "traffic signals and signs" as the primary causes. The collisions resulted in 79 injuries and 3 fatalities.

These collisions demonstrate a pattern resulting from reduced visibility at night, and the need for a protected phase for left turns at signalized intersections. Young drivers who arrive at and leave high school during early morning or late night hours are often involved in collisions due to their lack of driving experience and inattention to driving conditions.

The midblock collisions and the intermediate intersection collisions are outlined in the collision diagrams and summary included as Attachments 3 and 4, respectively. Compared to the intersections at Katella Avenue, Cerritos Avenue, and W. Ball Road, the other intersections have significantly less collisions. Unsignalized intersections were evaluated for the potential installation of a traffic signal using established warrants as detailed in the California Manual on Uniform Traffic Control Devices.

Based on the conditions and collisions described above, it is proposed that the traffic signals be upgraded and new high-intensity street lights be installed. Attachment 5 includes a project map showing existing conditions and proposed improvements. For the benefit/cost ratio calculations (please see Attachment 6), the S6 Countermeasure (Adding left turn phase when a left turn lane exists) had to be selected as the closest match. However, the proposed work goes above and beyond the description. At two intersections, lane re-configurations are proposed to accommodate the left turn phase.

A prevalent pattern of "broadside" type collisions exists at the major signalized intersections. In addition, a series of other types of crashes are attributed to "signals and signs", showing the need to modify and upgrade the traffic signals and traffic signage. A pattern of night-time crashes at intersections and along this section of street is also present. The proposed lane configuration and signal modifications and upgrades to provide protected left turn phases will eliminate the conflicts between left turn and through movements. Therefore, it is expected that these improvements will eliminate the "broadside" type of collisions as well as the potential for rear-end type collisions at intersections. Further, it is expected that the lane reduction from two to one lane in each direction will eliminate the potential for sideswipe type collisions. Re-configuration will consist of changing the street cross-section from a four lane (two lanes in each direction with no turn lane on the west side) secondary arterial to a three-lane (one lane in each direction, a two-way left turn lane and a parking lane in each direction) secondary arterial and upgrade traffic signal hardware and modified signal phasing to match the proposed lane configuration. The improved street lighting will reduce the pattern of night-time crashes by enhancing visibility and increasing reaction time.

Most of the three collisions with bicycles and the six collisions with pedestrians resulted in injuries, and two of the pedestrian collisions resulted in fatalities. The proposed widening of sidewalks and installation of curb ramps using Cycle 10 Safe Routes to School (SR2S) program funding, along with the the installation of high-intensity street lights, upgrades to traffic signal pedestrian buttons and indications, and re-striping crosswalks will improve the safety of pedestrians and cyclists on this street. For the benefit/cost ratio calculations, the R37 Countermeasure (Sidewalk Installation) had to be selected as the closest match to indicate replacement of the current sidewalk with ADA compliant sidewalks with proper width and access.

3. Crash Data Evaluation

Describe how the limits of the crash data were established to ensure only appropriate crashes were included in the Collision Summary Report(s), Collision Diagram(s) and B/C calculations. Explain how the influence areas for each separate countermeasure were established. (limited to 5,000 characters)

The Collision Summary reports were initially generated to cover approximately 12 years. When the numbers of collisions were found to be very high, the analysis period was shortened to approximately 5.5 years, to better indicate the on-going and current nature of the collision history on Gilbert Street between Katella Avenue and W. Ball Road. The limits for this project were established by the County of Orange to include the section of Gilbert Street that is mostly within County jurisdiction, to minimize cross-jurisdictional issues that could complicate and delay implementation of the project. Collisions were separated into two categories, intersection-related and mid-block, to help identify the patterns of crashes and their causes. Night-time collisions were defined as those that occurred between the hours of 0:00 to 6:00 and 18:00 to 24:00 between November and March, and those that occurred between the hours of 0:00 to 5:00 and 19:00 to 24:00 between April and October.

Influence areas for countermeasures related to the traffic signal modifications and upgrades were limited to the areas at the signalized intersections. The influence areas for lighting countermeasures were extended along the entire alignment, because the night-time crashes occurred at various locations along the street, including intersections and mid-block areas.

4. Prior attempts to address the Safety Issue

If appropriate, list all other projects/countermeasures that have been (or are being) deployed at this location. Applicants must identify all prior federal HSIP, HR3 or Safe Routes To School (SRTS) funds approved within or directly adjacent to the propose projects limits within the last 5 years. (limited to 5,000 characters)

Within the past five years, no significant improvements using HSIP or HR3 funds have been made to Gilbert Street and the intersections between Katella Avenue and W. Ball Road by the County of Orange. However, the County recently completed a project that included the installation of a Crosswalk Warning Light System at the intersection of Gilbert Street and Banta Avenue, using funds awarded from the 7th Cycle of the Safe Routes to School (SR2S) program. The County has also just been notified that it has been awarded a $450,000 grant from the 10th Cycle of the SR2S Program that includes installing new curb ramps and widening the sidewalk on the east side of Gilbert Street between Katella Avenue and W. Ball Road. The wider sidewalk will require narrowing Gilbert Street by approximately four feet. The narrowing of the street is also expected to provide "traffic calming" benefits.

In addition, the County using its own funds recently completed updating the traffic signing and striping within the project limit south of Cerritos Avenue and Guinida Lane (see Attachment 7, Work Orders). Further, a project to install in-pavement flashers at the intersection of Gilbert Street and Guinida Lane is on-going (please refer to Attachment 8) .

5. Total project costs

Describe the process used to establish the total cost for the project. Confirm contingencies for reasonably expected costs, including drainage, environmental, traffic, etc, are included. (limited to 5,000 characters)

Note: For applications with more than one countermeasure used in the B/C calculations, applicants need to describe the logic used to distribute the total project cost to each countermeasure.

The cost estimates were developed using quantities calculated based on the proposed project improvements, and using unit costs commonly used by the County of Orange to develop budgetary cost estimates for this type of project. Because Gilbert Street is fully improved, the costs and contingencies for reasonably expected costs have been included in the estimate. Please see Attachment 9 for the Detailed Engineer's Estimate.

The distribution of Total Project Cost to each of the countermeasures is based on the percentage of the major construction cost items related to the countermeasures. These percentages were then used to distribute other project costs to each of the countermeasures.

III. Project Cost Estimate *(See Instructions)*

All project costs must be accounted for on this form, even if substantial elements of the overall project are to be funded by other sources.

Round all costs up to the nearest hundred dollars. Once all costs are entered, click "Check Cost Estimate" to perform validation. If errors are detected, they will appear below the button. Click it to check again each time when the costs have been revised.

Phase		Federal Funds	Local/Other Funds(7)	Total Cost	Federal/Total(5)
Preliminary Engineering	Environmental	$0	$15,000	$15,000	
	PS&E	$0	$150,000	$150,000	
	PE Subtotal(2)	**$0**	**$165,000**	**$165,000**	**0%**
	☒ Agency does NOT request **federal** funds for PE Phase (automatically checked if PE - federal funds is $0).				
Right of Way	Right of Way Engineering	$0	$30,000	$30,000	
	Appraisals, Acquisitions & Utilities	$0	$70,000	$70,000	
	ROW Subtotal(3)	**$0**	**$100,000**	**$100,000**	**0%**
Construction Engineering & Construction	Construction Engineering(4)	$115,000	$152,600	$267,600	**43%**
	Construction(1)	$785,000	$999,300	$1,784,300	**44%**
	CON Subtotal	**$900,000**	**$1,151,900**	**$2,051,900**	
	Total Cost(5)(6)(7)	**$900,000**	**$1,416,900**	**$2,316,900**	

(1) The "Total Construction Cost" (including contingencies) must match the detailed Engineer's Estimate (attached to the application).
(2) "Federal Funds" for Preliminary Engineering may not exceed 25% of the Federal Construction Cost.
(3) "Federal Funds" for Right of Way may not exceed 25% of the Federal Construction Cost.
(4) "Federal Funds" for Construction Engineering may not exceed 15% of the Federal Construction Cost.
(5) "Federal Funds" may not exceed 90% of "Total Cost." This applies to each phase.
(6) "Federal Funds" may not exceed $900,000.
(7) To maintain efficiencies in the overall Program and Project Management, the total "Federal Funds" must be no less than $100,000 (see Application Form Instructions for exceptions). If needed, agencies should consider extending the project limits and/or adding other safety improvements in order to increase both the Benefits and Costs.

Check Cost Estimate [Per (2) through (7) above]

Congratulations! No errors have been found in the cost estimate.

IV. Implementation Schedule *(See Instructions)*

The local agency is expected to deliver the project per Caltrans Local Assistance safety program delivery requirements.
In order for the milestones to be calculated correctly, all fields needs to be filled in. For steps that are not applicable, enter "0".

Target Date for the Project's Amendment into the FTIP:	**01/01/2013**		
Time for agency to internally staff project and request PE authorization	0	Month(s)	
Typical Time for Caltrans and FHWA to process and approve PE authorization	2	Month(s)	
Proposed PE Authorization Date:	**03/02/2013**		**(PE Authorization Delivery Milestone)**
Will external consultants be required to complete the PE phase of this project?	*No*		
Additional time needed to the Delivery Process for hiring PE consultant(s)	0	Month(s) (0 - 6)	
Time to prepare environmental studies request	1	Month(s)	
Time to complete CEQA/NEPA studies/approvals	3	Month(s)	
See PES Form in the LAPM for Typical studies and permits			
Time to complete the Right of Way Acquisition (federal process)	2	Month(s)	
Plan on 18 months minimum for federal process including a condemnation			
Time to complete final PS&E documentation	3	Month(s)	
Other	0	Month(s)	
Expected Completion Date for the PE Phase:	**11/30/2013**		
Time for agency to request CON authorization	3	Month(s)	
Typical Time for Caltrans and FHWA to process and approve CON Auth	3	Month(s)	
Proposed CON Authorization Date:	**05/31/2014**		**(CON Authorization Delivery Milestone)**
Time included for the agency's workload-leveling or construction-window needs	1	Month(s)	
Time to award contract with CON contractor (following the federal process, including Board/Council approval, advertise, award, execute and mobilize)	4	Month(s)	
Time to complete construction	6	Month(s)	
Time included for closing the CON contract	2	Month(s)	
Other	0	Month(s)	
Expected Completion Date for the CON Phase:	**06/30/2015**		
Time to complete the project close-out process	2	Month(s)	
Typical Time for Caltrans and FHWA to process and approve project close-out	3	Month(s)	
Expected Completion Date for the project Close-Out:	**11/29/2015**		**(Close-Out Delivery Milestone)**

V. Countermeasures, Crash Data and Benefit/Cost Ratio *(See Instructions)*

In the process of completing this application, the Local Agency is required to utilize the Benefit/Cost Ratio Calculation Tool that is included in the Safe Transportation research and Education Center (SafeTREC) Transportation Injury Mapping System (TIMS) web site. This **web site** can be assessed at http://tims.berkeley.edu/

The final output summary page from TIMS must be included as part of the official application (both electronically and hard copy). The hard copy page must be included in the application following this page.

In order to facilitate the electronic collection and tracking of this data, Caltrans is requiring agencies to manually enter some of the key "input data" and "output data" used in their final TIMS B/C Ratio. *NOTE: If any of the values inputted on this sheet do not match the values from the TIMS B/C Ratio Output Summary sheet, THE APPLICATION WILL BE REJECTED.* ***Be Careful and confirm the numbers!***

TIMS Application ID: **12-Orange County-1** (This ID is generated by this form. TIMS Application ID must match this ID.)

Version (from TIMS) : **1**

Total Project Cost: $2,316,900 (This must match the total project cost in Section III.)

Countermeasure Information

Number of countermeasures utilized: 3

	Countermeasure	% of Total Project Cost
#1:	S6: Provide protected left turn phase (left turn lane already exists)	40 (%)
#2:	R1: Add segment lighting	20 (%)
#3:	R37: Install sidewalk/pathway (to avoid walking along roadway)	40 (%)

B/C Ratio Calculation

	Expected Benefit (Life)	Expected Cost	Resulting B/C
Countermeasure #1	$8,859,482	$926,760	9.56
Countermeasure #2	$11,868,946	$463,380	25.61
Countermeasure #3	$25,603,549	$926,760	27.63
Project's Total (Overall)	**$46,331,977**	**$2,316,900**	**20.00**

VI. Application Data Verification and Signature *(See Instructions)*

All HSIP/HR3 applications (hard-copies only) must be signed by a registered engineer or the Agency's Transportation Manager in responsible charge of their Traffic Engineering section. By signing and submitting this application, the engineer/manager is attesting to:

1. All data in the application is accurate and represents the total scope of the planned project.
2. All likely project costs are included in the Total Project Cost (additional federal funds for cost increases will not be approved.)
3. Each countermeasure included represents a minimum of 20% of the Total Project Cost.
4. All crash data is: 1) accurately shown in collision diagram(s) attached to this application; and 2) applied to countermeasures using generally accepted traffic engineering principles.
5. The agency understands the Project Delivery Requirements for the HSIP and HR3 programs and is prepared to deliver the project with these requirements;
6. The agency understands if Caltrans staff determine that any of the above requirements are not met, inaccurate, or fail to meet the program guidelines and application instructions, the application will be rejected and will not be eligible to receive federal safety funding. Due to time constraints in the evaluation process, applicants will not be notified until after the selection process is complete. Refer to Application Form Instructions for more information on "fatal flaws."

Name *(Last, First)*: Bazmi, Khalid

Title: Manager, OC Public Works, OC Engineering/D

Engineer License Number 51343

Signature*:

Date: Jul 20, 2012

* Note: This signature is only expected on the two hard copies of the application. The electronic copy of this PDF form must be saved in the original format (NOT a scanned copy) so the application data can be extracted.

Application Attachments *(See Instructions)*

Check all attachments included in this application.

- ☒ Vicinity map /Location map (Required)
- ☒ Project map showing existing and proposed conditions (Required)
- ☒ Collision diagram(s) (Required)
- ☒ Collision summary report / list (Required)
- ☒ TIMS output summary sheet (Required)
- ☒ Detailed Engineer's Estimate (Required)
- ☐ Warrant studies (Required when applicable to proposed improvements)
- ☐ Letter of Support from Caltrans (Required when applicable)
- ☒ Additional narration, documentation, photographs, letters of support, etc.

Application Submittal Process

For applications to be included in the final Caltrans review, ranking and selection process, they must follow the exact submittal process identified in the application instructions. Some of the key requirements are as follows:

1). Submit two (2) original copies of the SIGNED application form and attachments;

2). On a CD or flash drive, submit electronic copies of

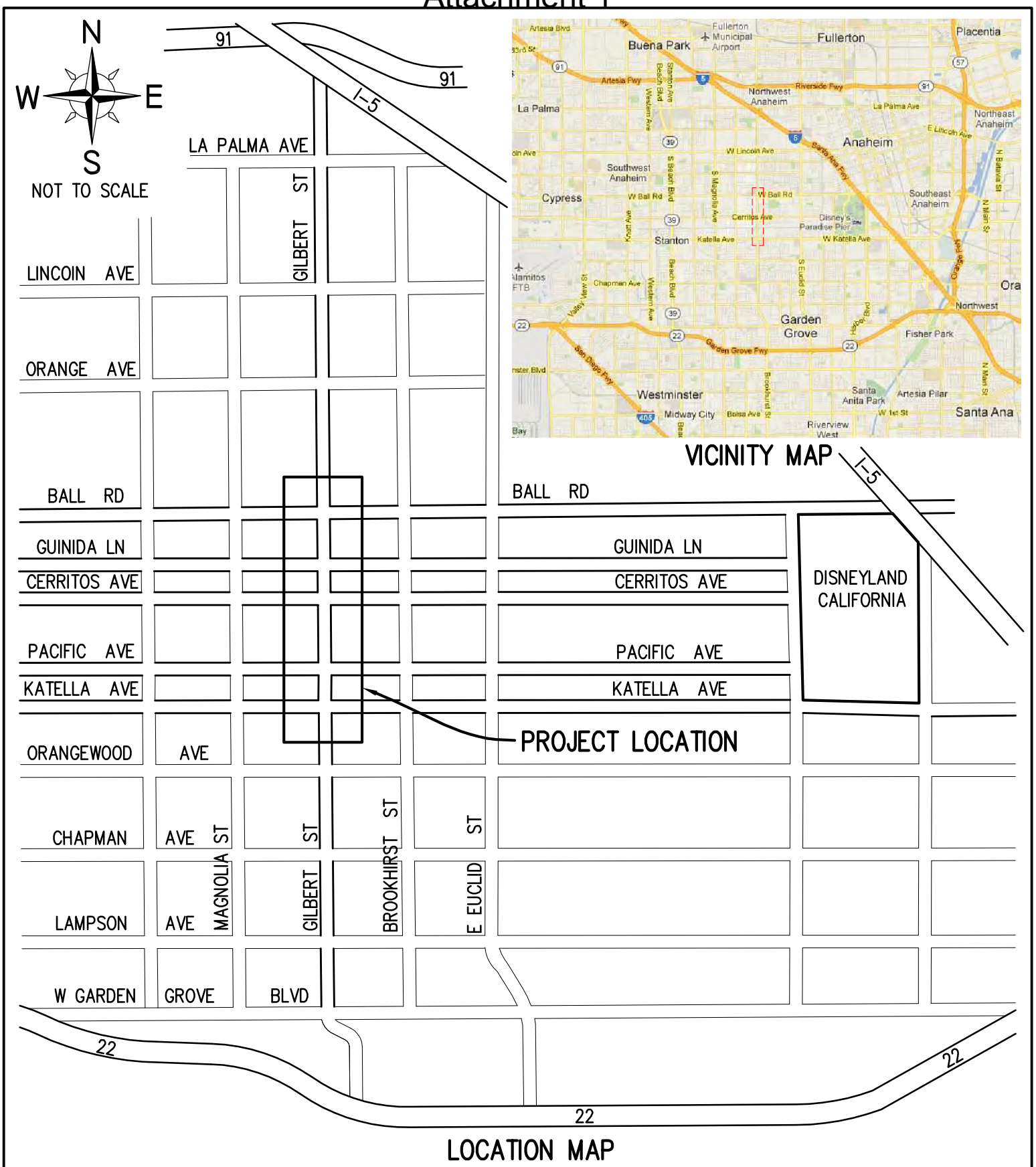
- The original PDF form with application data. The file name must match the "Application ID" shown on the cover page. This file will be used to extract the application data. It can not be a scanned or printed copy.
- Separate electronic PDF files for a scanned copy of signed application form and application attachments.

3) The above must be submitted to Caltrans Local Assistance District Local Assistance Engineer (DLAE), by Friday, July 20, 2012.

ATTACHMENT 1

Vicinity & Location Map

Attachment 1



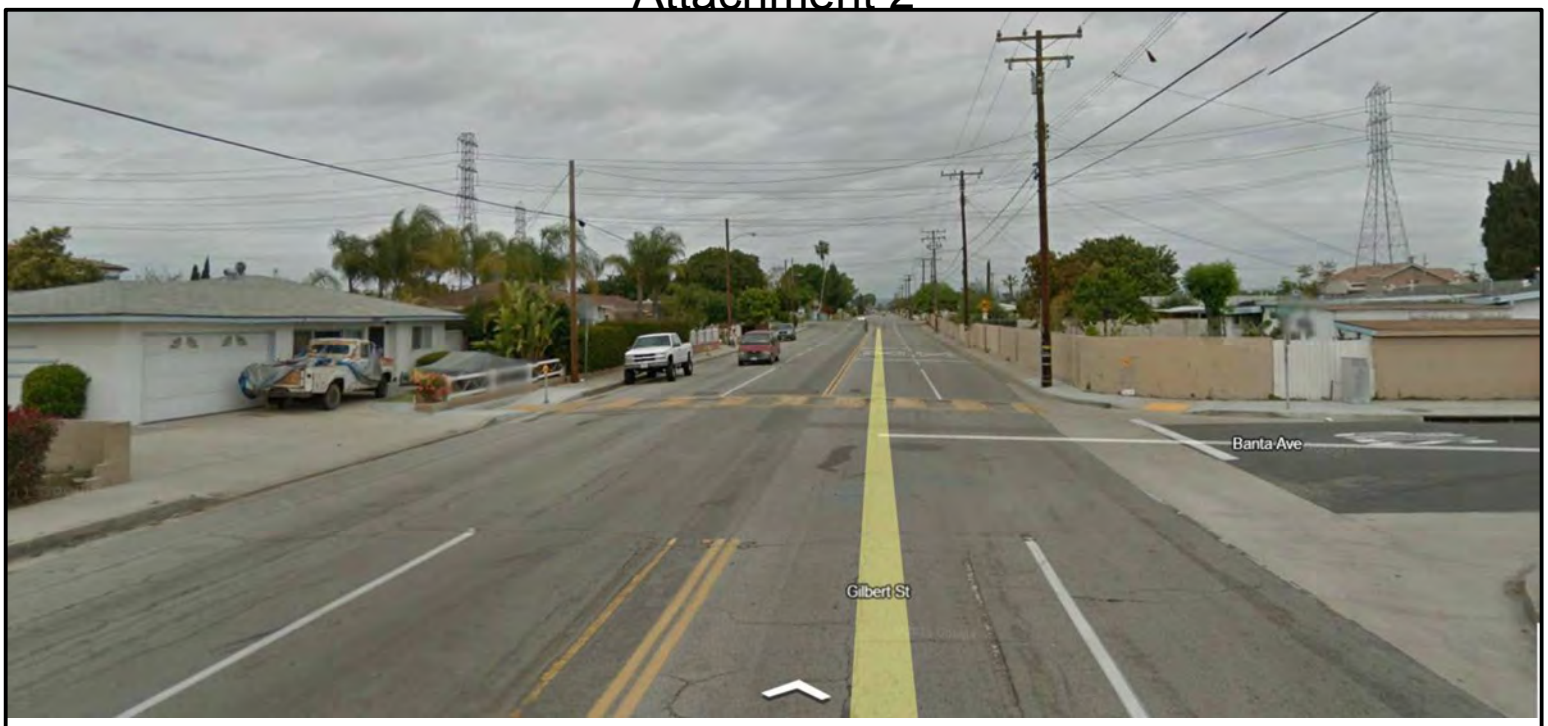
COUNTY OF ORANGE CALIFORNIA

VICINITY AND LOCATION MAP

ATTACHMENT 2

Photos Showing the Existing Conditions

Attachment 2



GILBERT STREET & BANTA AVENUE

GILBERT STREET & KATELLA AVENUE

COUNTY OF ORANGE CALIFORNIA

(LOOKING NORTH)
INTERSECTION PHOTOS
PAGE 1 OF 6

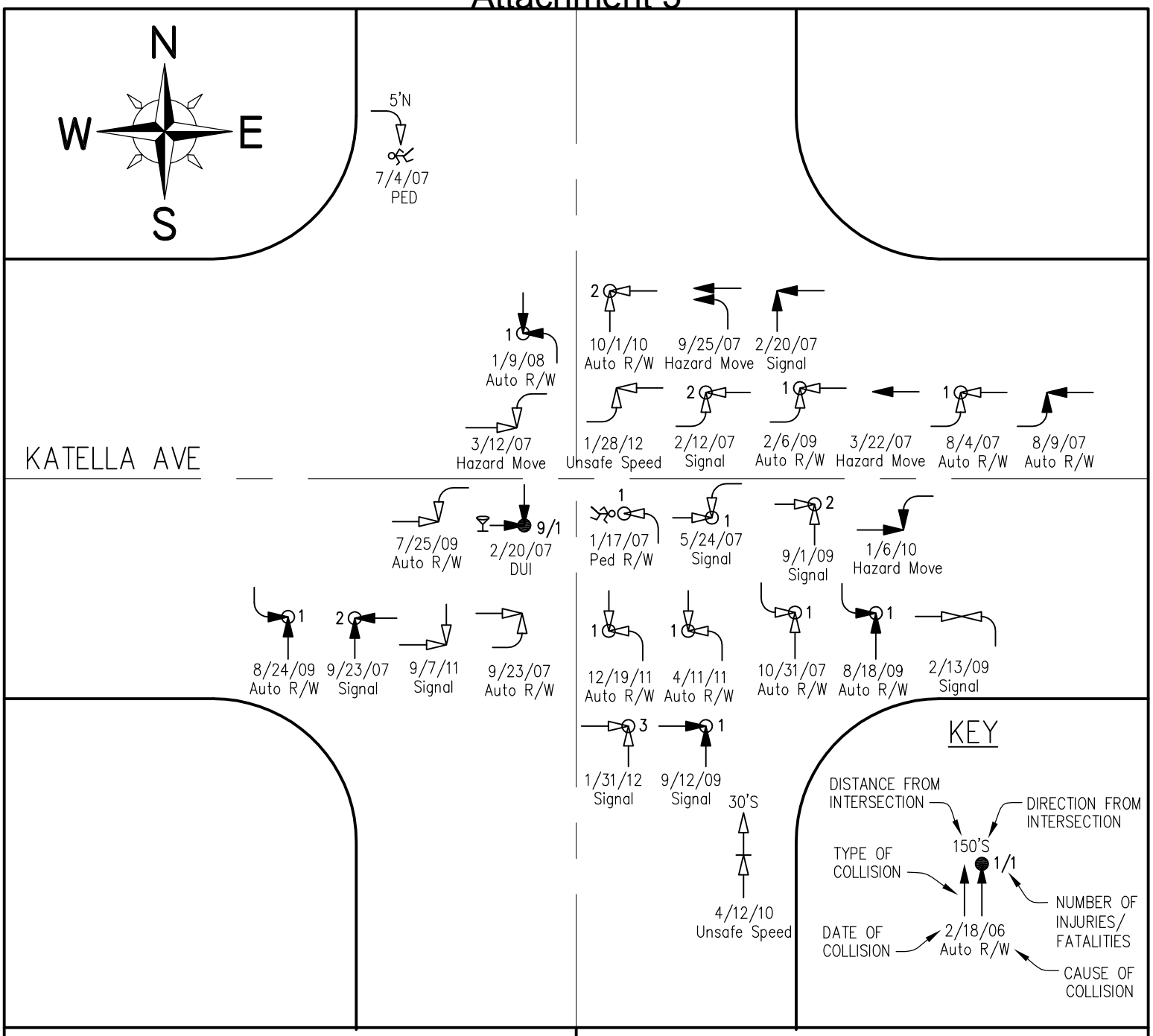
GILBERT STREET & BALL ROAD

COUNTY OF ORANGE CALIFORNIA

(LOOKING NORTH)
INTERSECTION PHOTOS
PAGE 6 OF 6

ATTACHMENT 3

Collision Diagrams



NUMBER OF COLLISIONS

PROPERTY DAMAGE ONLY	13
INJURY COLLISIONS	16
FATAL COLLISIONS	1
TOTAL COLLISIONS	30
TOTAL INJURIES	31
TOTAL FATALITIES	1

LEGEND

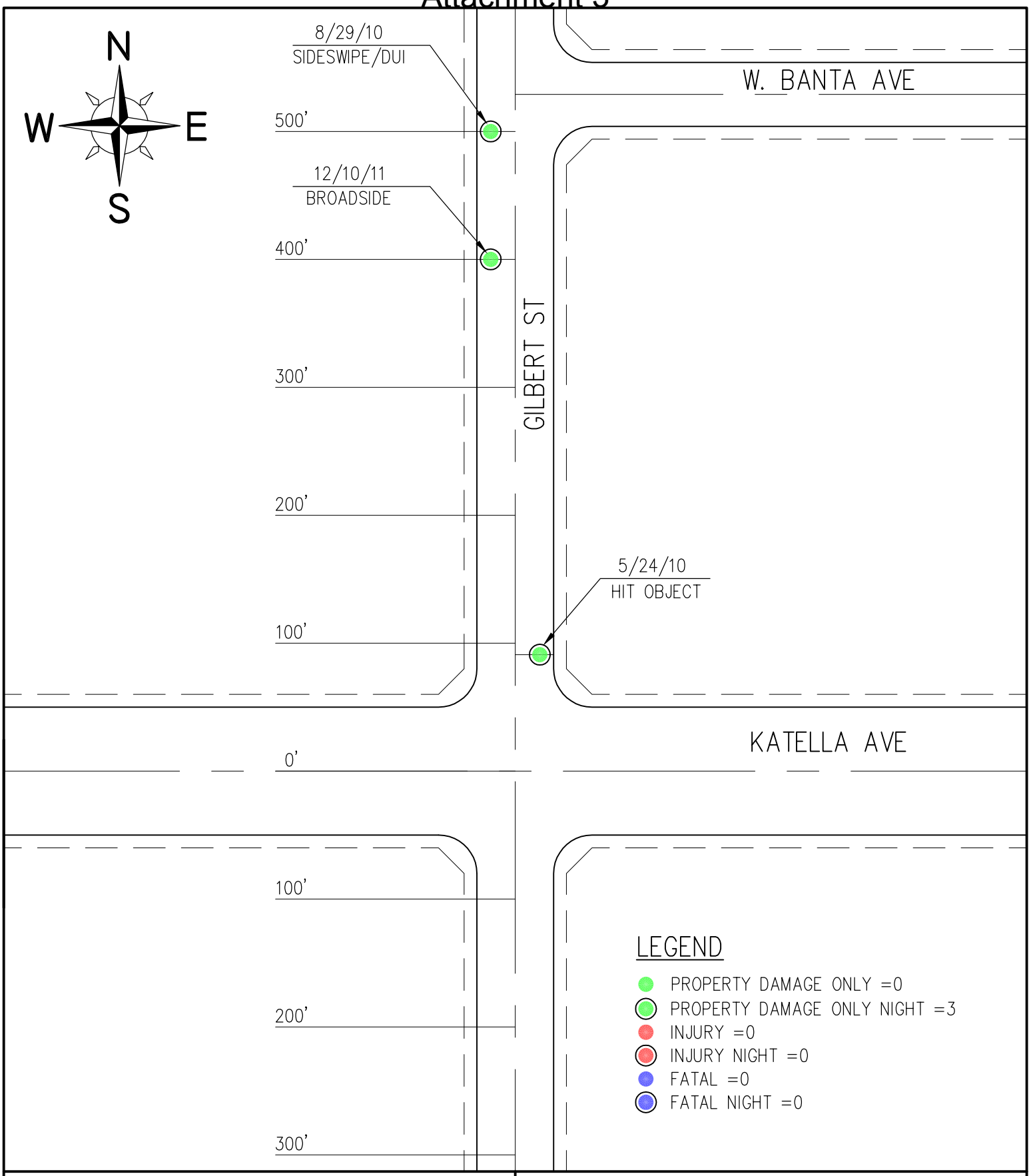
- RIGHT TURN
- LEFT TURN
- SIDESWIPE
- DAY
- NIGHT
- MOVING VEHICLE
- STOPPED VEHICLE
- PEDESTRIAN
- FIXED OBJECT
- BICYCLE
- DUI
- INJURY
- FATAL

COUNTY OF ORANGE CALIFORNIA

INTERSECTION COLLISION DIAGRAM FIGURE A

INTERSECTION: GILBERT ST AND KATELLA AVE

PERIOD FROM: JAN 2007 TO MAY 2012



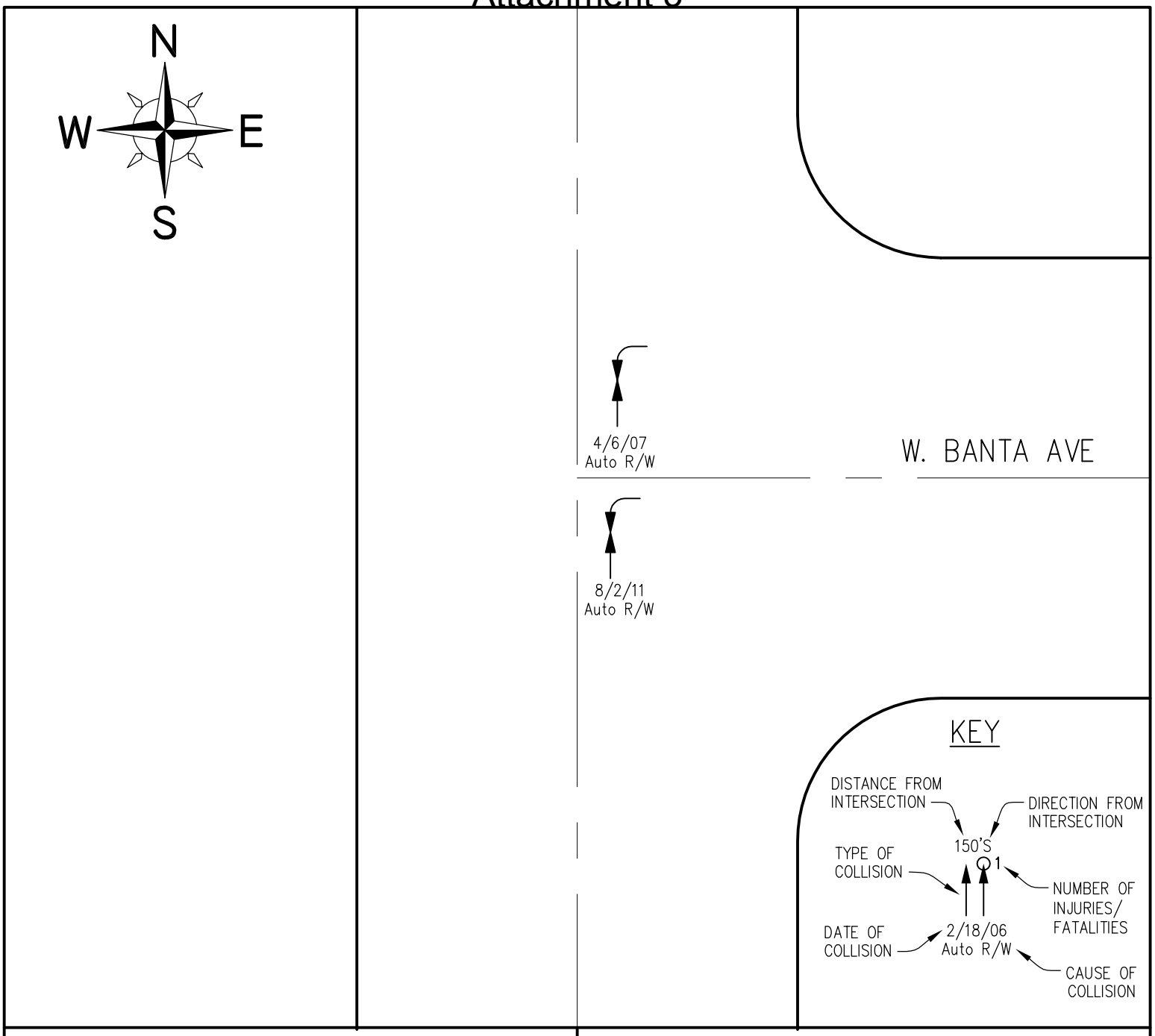
COUNTY OF ORANGE CALIFORNIA

MID BLOCK COLLISION DIAGRAM
FIGURE A1

VERTICAL STREET: GILBERT ST

HORIZONTAL STREET: KATELLA AVE

PERIOD FROM: JAN 2007 TO MAY 2012



NUMBER OF COLLISIONS

PROPERTY DAMAGE ONLY	2
INJURY COLLISIONS	0
FATAL COLLISIONS	0
TOTAL COLLISIONS	2
TOTAL INJURIES	0
TOTAL FATALITIES	0

LEGEND

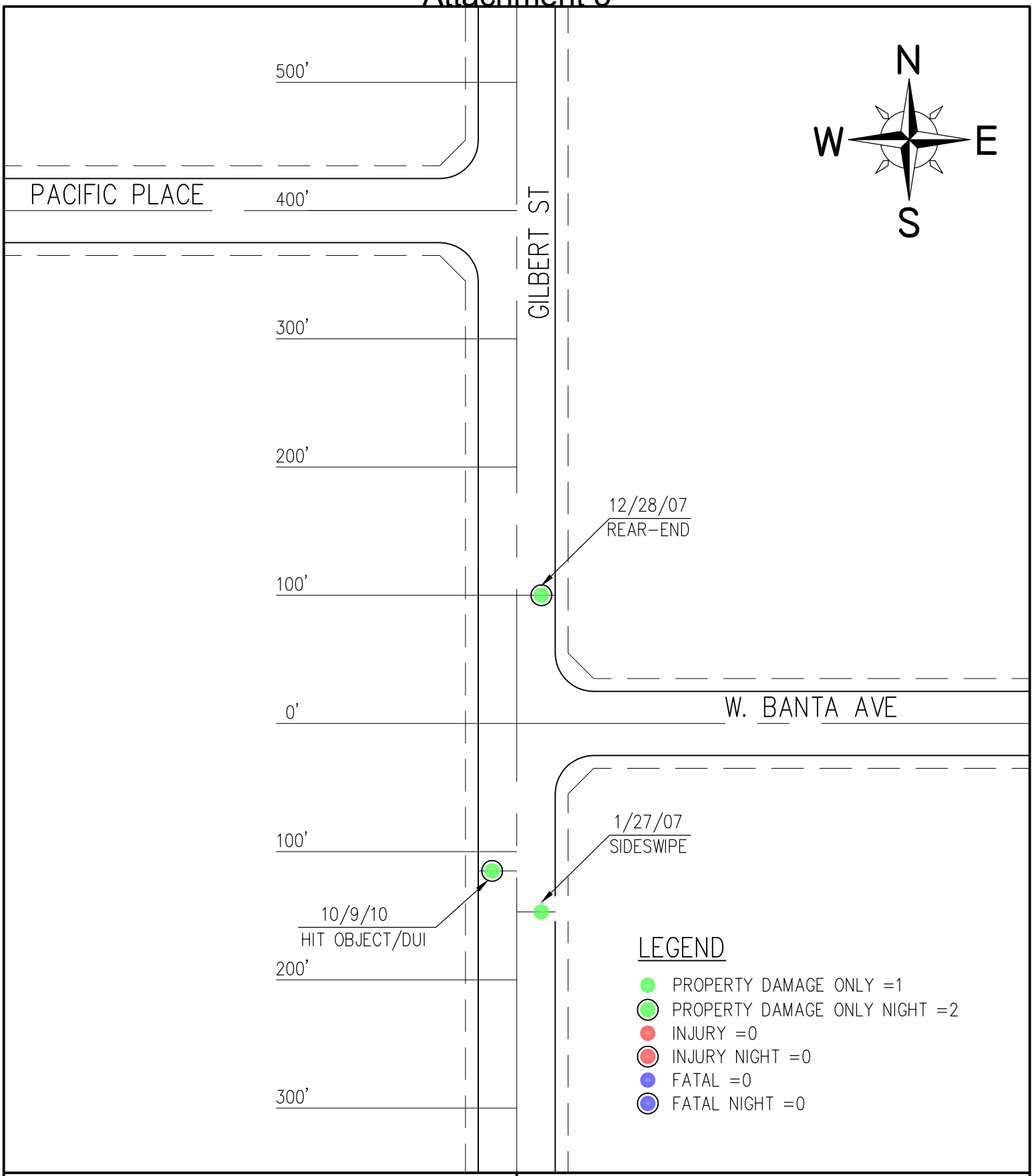
- RIGHT TURN
- LEFT TURN
- SIDESWIPE
- DAY
- NIGHT
- MOVING VEHICLE
- STOPPED VEHICLE
- PEDESTRIAN
- FIXED OBJECT
- BICYCLE
- DUI
- INJURY
- FATAL

COUNTY OF ORANGE CALIFORNIA

INTERSECTION COLLISION DIAGRAM FIGURE B

INTERSECTION: GILBERT ST AND W. BANTA AVE

PERIOD FROM: JAN 2007 TO MAY 2012



COUNTY OF ORANGE CALIFORNIA

MID BLOCK COLLISION DIAGRAM
FIGURE B1

VERTICAL STREET: GILBERT ST

HORIZONTAL STREET: W. BANTA AVE

PERIOD FROM: JAN 2007 TO MAY 2012

ATTACHMENT 4

Collision Report Summary

Attachment 4

County of Orange
Traffic Engineering Department

Collision Report Summary

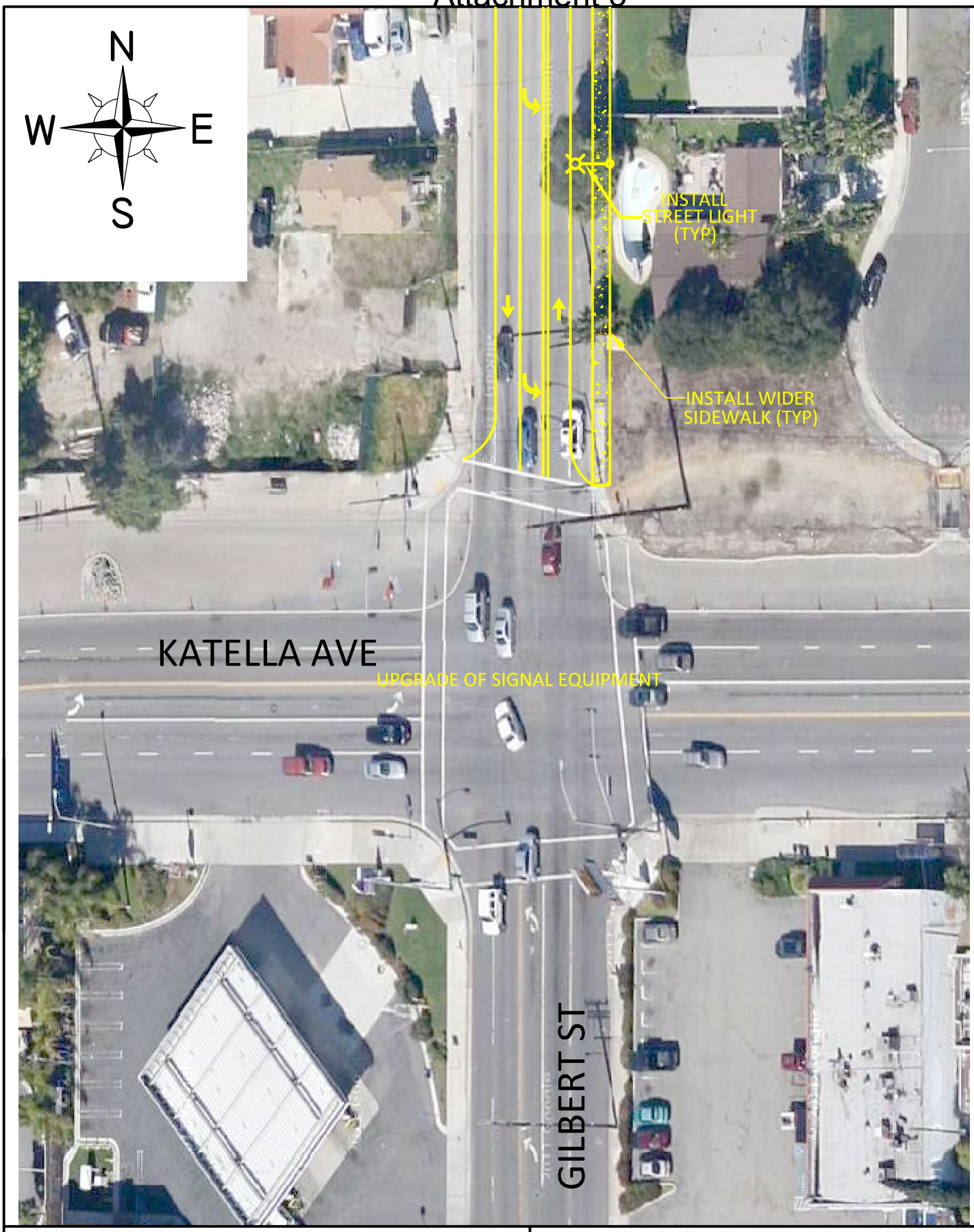
7/18/2012
Date Range Reported: 1/1/07 - 5/31/12
Total Number of Collisions: 124

Report#	Date	Time	Location	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Dir. of Travel 1	Movement Prec. Coll. 1	Dir. of Travel 2	Movement Prec. Coll. 2	PCF	Inj.	Kil.	Ver.
~~041~~	~~1/1/07~~	~~18:25~~	~~Gilbert Street & Orange Avenue~~	~~500'~~	~~North~~	~~Sideswipe~~	~~Other Motor Vehicle~~	~~North~~	~~Other Unsafe Turning~~	~~North~~	~~Parked~~	~~Improper Turning~~	~~0~~	~~0~~	
150	1/17/07	07:51	Katella Avenue & Gilbert Street	0'	In Int.	Vehicle - Pedestrian	Pedestrian	South	Making Left Turn	North	Not Stated	Ped R/W Violation	1	0	
292	1/27/07	10:10	Gilbert Street & Banta Avenue	147'	South	Sideswipe	Other Motor Vehicle	North	Proceeding Straight	North	Changing Lanes	Unsafe Lane Change	0	0	
115	2/12/07	10:05	Katella Avenue & Gilbert Street	0'	In Int.	Broadside	Other Motor Vehicle	West	Proceeding Straight	East	Making Left Turn	Traffic Signals and Signs	2	0	
215	2/20/07	01:00	Katella Avenue & Gilbert Street	0'	In Int.	Broadside	Other Motor Vehicle	South	Proceeding Straight	East	Proceeding Straight	Driving Under Influence	9	1	
216	2/20/07	05:30	Katella Avenue & Gilbert Street	0'	In Int.	Broadside	Other Motor Vehicle	West	Proceeding Straight	North	Proceeding Straight	Traffic Signals and Signs	0	0	
192	3/12/07	12:46	Katella Avenue & Gilbert Street	0'	In Int.	Sideswipe	Other Motor Vehicle	East	Proceeding Straight	West	Making Left Turn	Other Hazardous Movement	0	0	
284	3/22/07	21:45	Katella Avenue & Gilbert Street	0'	In Int.	Broadside	Other Motor Vehicle	East	Making Left Turn	West	Proceeding Straight	Other Hazardous Movement	0	0	
325	3/26/07	16:40	Pacific Avenue & Gilbert Street	0'	In Int.	Broadside	Other Motor Vehicle	West	Making Left Turn	North	Proceeding Straight	Auto R/W Violation	0	0	
431	3/31/07	15:30	Gilbert Street & Pacific Avenue	0'	In Int.	Hit Object	Fixed Object	North	Other Unsafe Turning			Improper Turning	0	0	
05-138045	4/5/07	19:05	Gilbert Street & Cerritos Avenue	45'	North	Sideswipe	Parked Motor Vehicle	North	Other Unsafe Turning	North	Parked	Improper Turning	0	0	
057	4/6/07	20:40	Gilbert Street & Banta Avenue	0'	In Int.	Broadside	Other Motor Vehicle	West	Making Left Turn	North	Proceeding Straight	Auto R/W Violation	0	0	
07-077	4/8/07	18:45	Gilbert Street & Cerritos Avenue	0'	In Int.	Broadside	Other Motor Vehicle	North	Proceeding Straight	South	Making Left Turn	Auto R/W Violation	4	0	

ATTACHMENT 5

Project Map Showing Existing Conditions and Proposed Improvements

Attachment 5

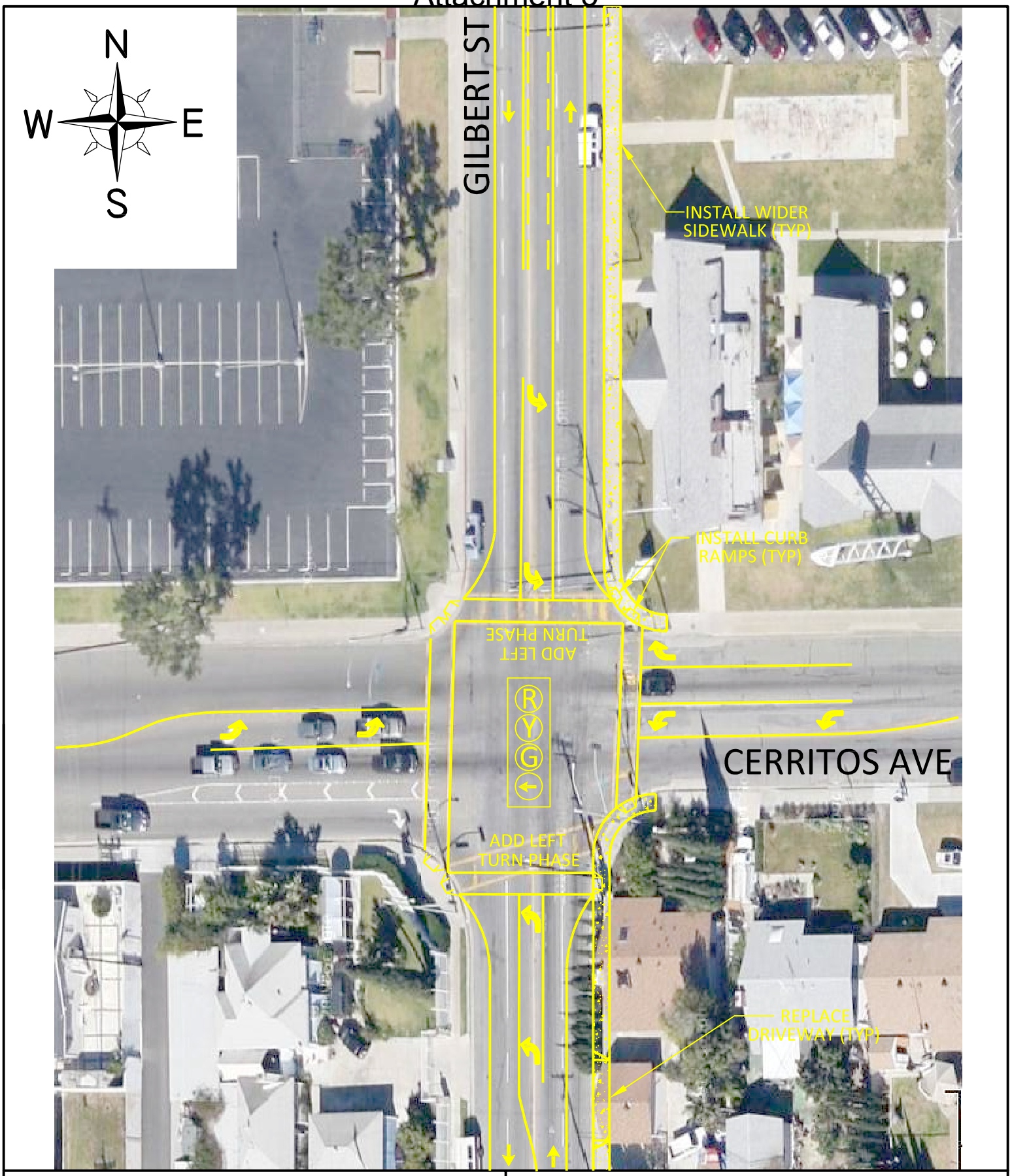


COUNTY OF ORANGE CALIFORNIA

PROPOSED IMPROVEMENTS

1 OF 11

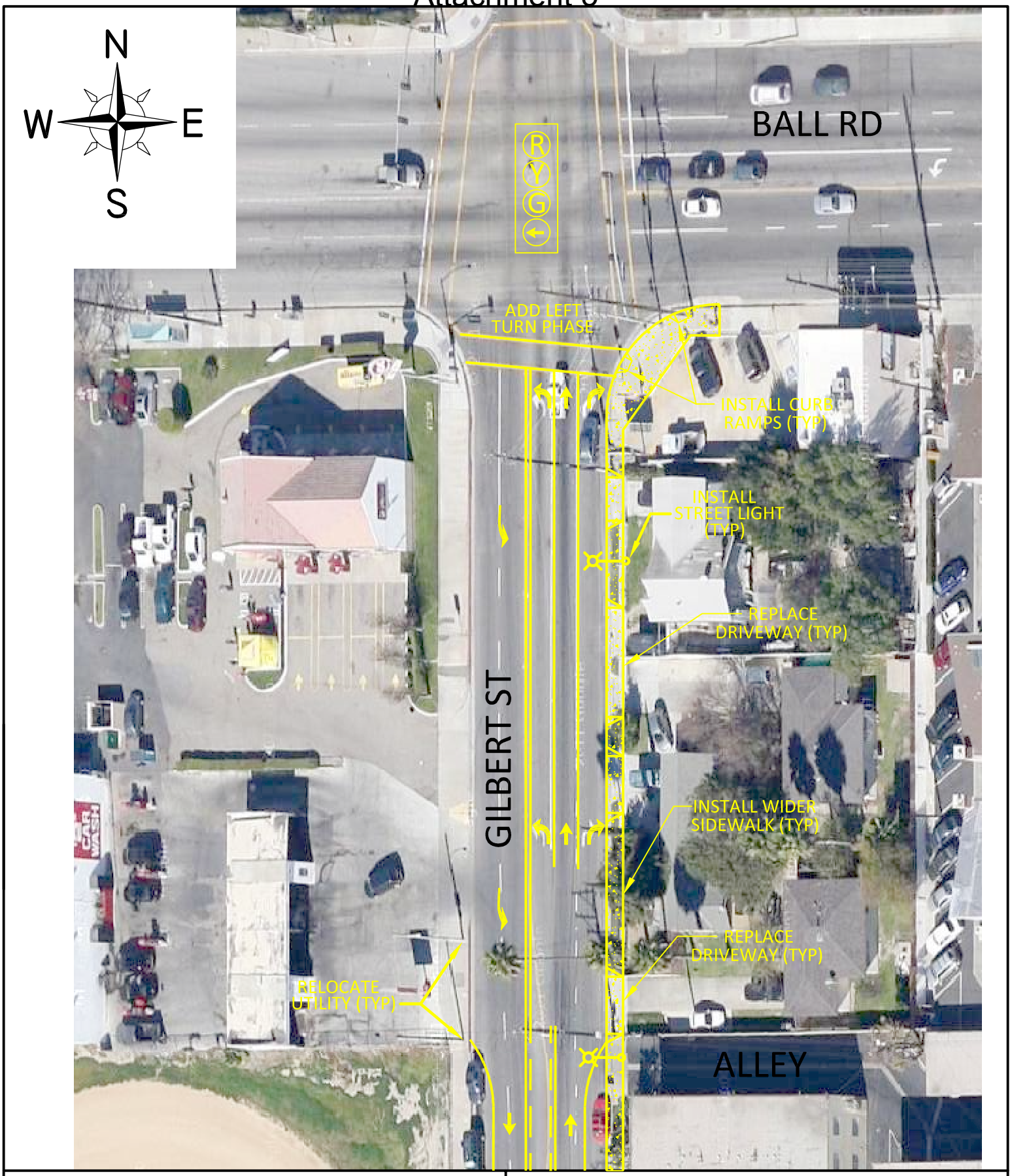
Attachment 5



COUNTY OF ORANGE CALIFORNIA

PROPOSED IMPROVEMENTS

5 OF 11



COUNTY OF ORANGE CALIFORNIA

PROPOSED IMPROVEMENTS

ATTACHMENT 6

TIMS Output Summary Sheet

Benefit / Cost Calculation Result

1. Project Information

Application ID	12- Orange County -1	Version	1

2. Countermeasures and Crash Data

• Provide protected left turn phase (left turn lane already exists)

CM Number	Project Type	Crash Type	CRF	Life
S6	Signal Mod.	All	30	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
All	1	0	47	0	36	84

Annual Benefit	$442,974
Life Benefit	$8,859,482
Cost	$ 926,760
B/C Ratio	9.56

• Add segment lighting

CM Number	Project Type	Crash Type	CRF	Life
R1	Lighting	Night	35	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Night	2	0	12	0	28	42

Annual Benefit	$593,447
Life Benefit	$11,868,946
Cost	$ 463,380
B/C Ratio	25.61

• Install sidewalk / pathway (to avoid walking along roadway)

CM Number	Project Type	Crash Type	CRF	Life
R37	Ped and Bike	Ped & Bike	80	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Ped & Bike	2	0	8	0	1	11

Annual Benefit	$1,280,177
Life Benefit	$25,603,549
Cost	$ 926,760
B/C Ratio	27.63

3. Benefit Cost Result

Total Benefit	$46,331,977
Total Cost	$2,316,900
B/C Ratio	20.00

Safety Practitioner / Engineer: Joe Sarmiento

Signature: J. Sarmiento

By signing this B/C Calculation Result, you are attesting to your authority / responsibility at your local agency for this work and you are attesting to the accuracy of the values on this page and that they have been entered into the HSIP Application Form correctly, DO NOT SIGN if any of this is not the case.

ATTACHMENT 7

Work Orders

County of Orange
OC Public Works
Traffic Engineering

WORK ORDER NO. 12-13

PAGE 1 **OF** 1

TO: Nina Quimsing, PW-Ops-Scheduling

DATE SENT: 03/13/12

FROM: Deepthi Arabolu/ Rick Diaz, Traffic Investigations

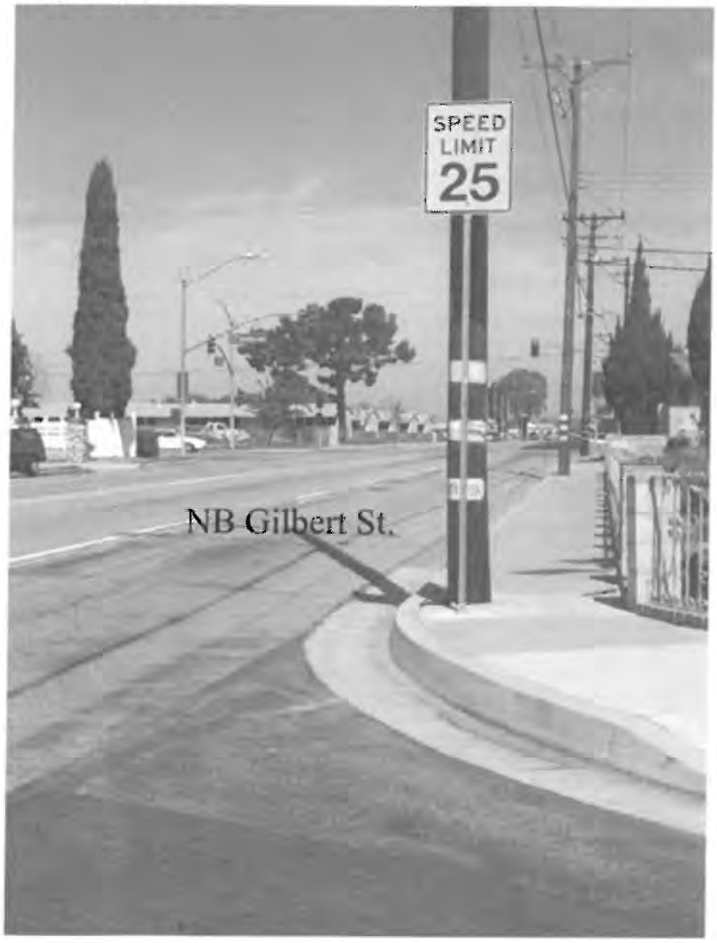
PHONE NO.: 245-4577

LOCATION: Gilbert Street; South of Cerritos Ave.

REQUEST:

- Replace existing R2-1 (25 mph) with new School Speed Limit sign, SR4-1(CA). The "SCHOOL" message background shall be Fluorescent Yellow Green.

THANK YOU.



COMPLETED:_____

TED FIELD CHECK:_____

F0250-512.1A (R11/05)

County of Orange
OC Public Works
Traffic Engineering

WORK ORDER NO. 12-16

PAGE 1 **OF** 1

TO: Nina Quimsing, PW-Ops-Scheduling

DATE SENT: 04/05/12

FROM: Rick Diaz, Traffic Operations

PHONE NO.: 245-4581

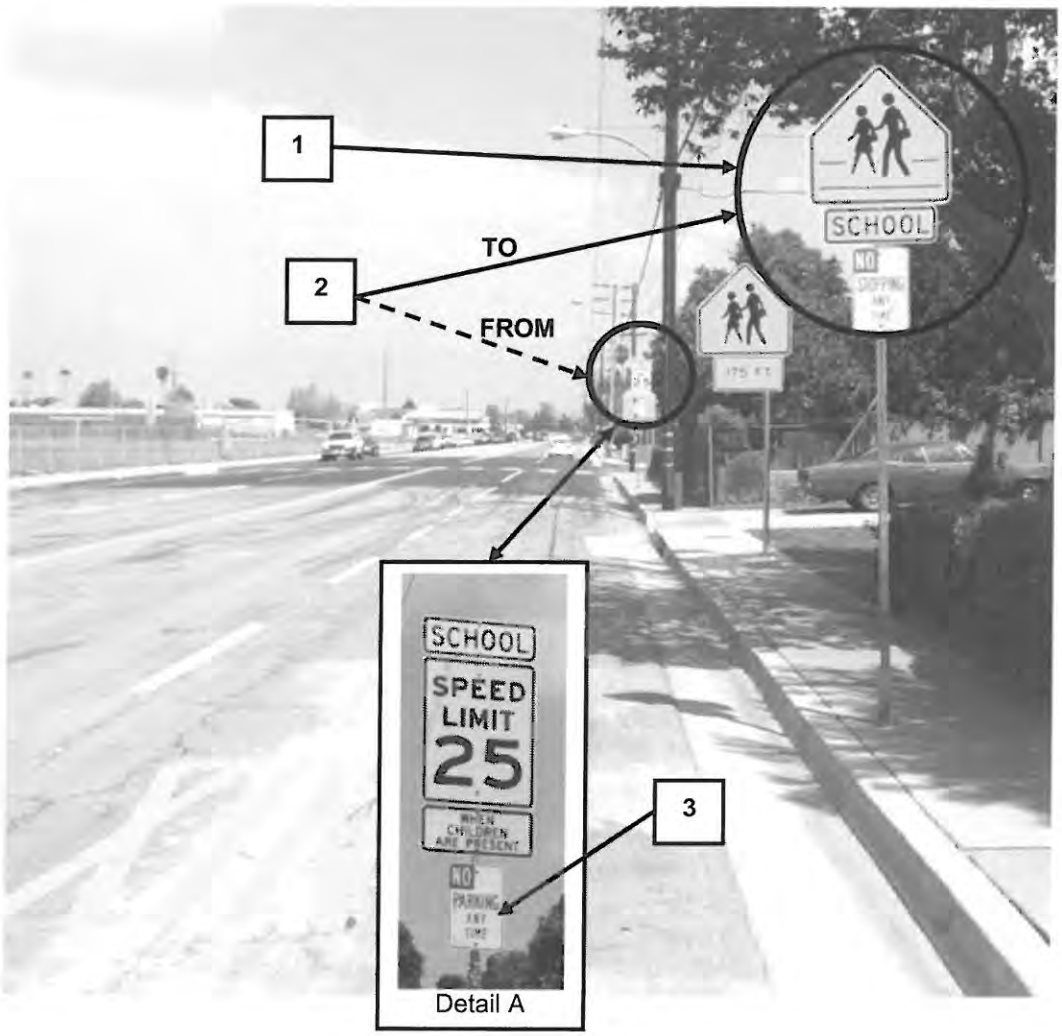
LOCATION: Gilbert Street; South of Guinida Lane

T.B. REFER: 798-C1

REQUEST:

1. Remove existing W66,S4-3P, and R26(S)(CA) signs. Protect existing sign post.
2. Relocate existing S4-3P, R2-1(25), & S4-2P signs (School Speed Limit Assembly: See Detail A) from existing location to existing sign post as shown.
3. Remove existing R26(CA) "No Parking Any Time" sign and install R26(S)(CA) "No Stopping Any Time" sign on same post.

THANK YOU.



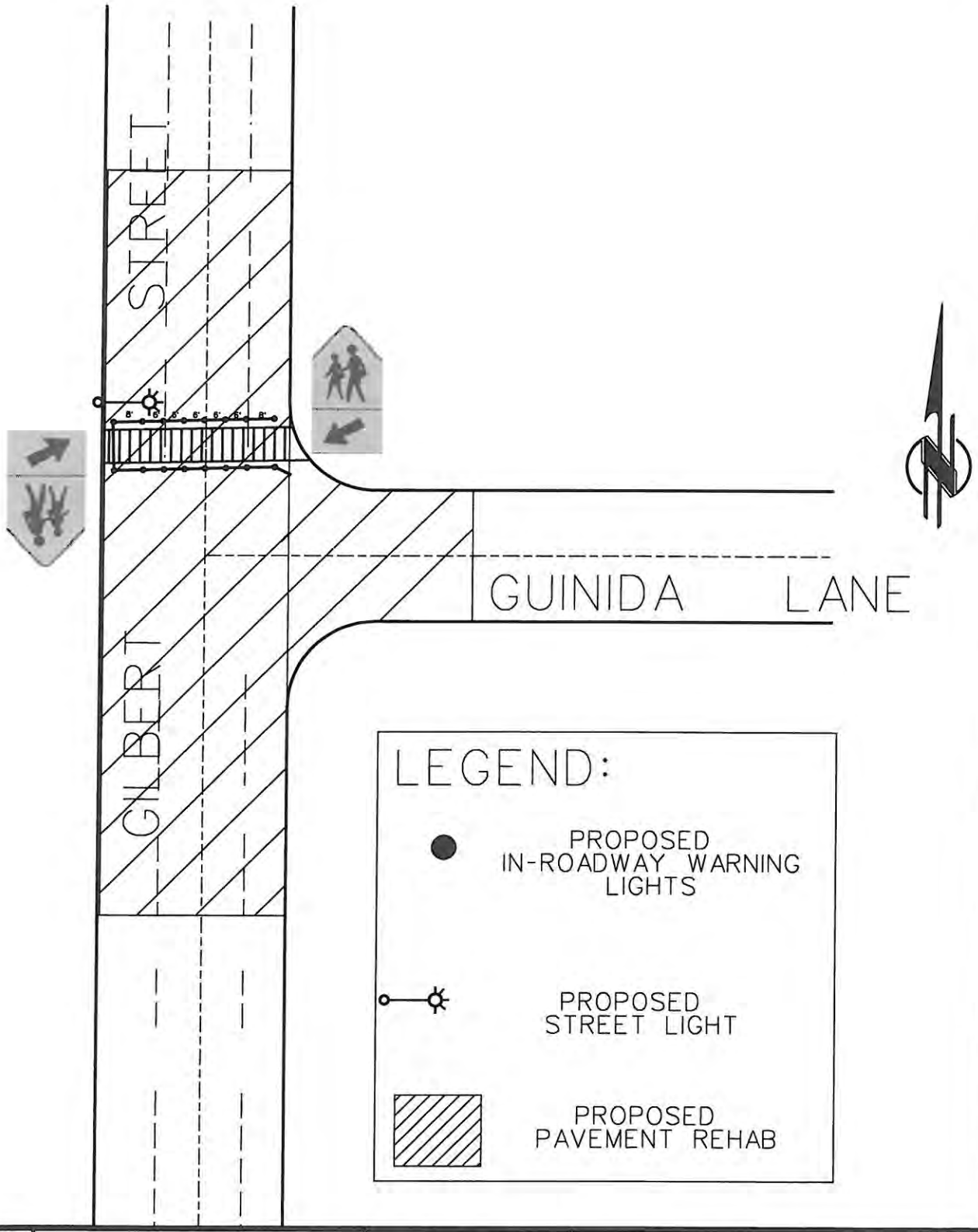
COMPLETED:_____ **TED FIELD CHECK:**_____

F0250-512.1A (R11/05)

ATTACHMENT 8

In-Pavement Flashers at Gilbert Street and Guinida Lane

Attachment 8



COUNTY OF ORANGE
OC PUBLIC WORKS

SCALE : NTS

GILBERT STREET @ GUINIDA LANE

PROJECT : CROSSWALK WARNING LIGHT SYSTEM & PAVEMENT REHAB

...\3. Gilbert & Guinida Modified.dgn 7/19/2012 3:04:22 PM

ATTACHMENT 9

Detailed Engineer’s Estimate

Attachment 9

Detailed Engineer's Estimate
For Construction Items Only

Age	**County of Orange Public Works**	**Application ID:**	12 - Orange County - 1	**Date:**	7/16/2012
Project Description	Reconfigure Lanes, Upgrade Traffic Signals, Underground Utilities, Install Street Lights, Install traffic Signs and Striping and Co				
Project Location	Gilbert Street between Katella Avenue and West Ball Road				
Prepared by:	Orange County Public Works				

Item No.	Item Description	Quantity	Units	Unit Cost	Total	% to CM #1 %	% to CM #1 $	% to CM #2 %	% to CM #2 $	% to CM #3 %	% to CM #3 $
1	Replace Traffic Signals	1	LS	$500,000.00	$500,000	100	$500,000				
2	Remove Existing and Paint New Pavement Delineation	1	LS	$20,000.00	$20,000	100	$20,000				
3	Relocate and Install New and Regulatory Warning Signs	1	LS	$15,000.00	$15,000	50	$7,500			50	$7,500
4	Traffic Control Devices	1	LS	$45,000.00	$45,000	100	$45,000				
5	Install Street Lights	26	EA	$13,500.00	$351,000			100	$351,000		
6	Remove and Replace Curb Ramps	22	EA	$1,800.00	$39,600					100	$39,600
7	Install Truncated Domes	4	EA	$350.00	$1,400					100	$1,400
9	Underground Existing Overhead Lines	1	LS	$150,000.00	$150,000			20	$30,000	80	$120,000
10	Remove 4" PCC Sidewalk	18,230	SF	$1.10	$20,053					100	$20,053
11	Remove and Relace Curb & Gutter	2580	LF	$32.00	$82,560					100	$82,560
12	Construct 4" PCC Sidewalk	25135	LF	$4.50	$113,108					100	$113,108
13	Remove and Replace Driveway Approaches	40	EA	$2,700.00	$108,000					100	$108,000
14	Erosion, Sediment and Chemical Control Plan	1	LS	$15,000.00	$15,000	20	$3,000	20	$3,000	60	$9,000
15	Traffic Control	1	LS	$50,000.00	$50,000	45	$22,500	10	$5,000	45	$22,500
16	Mobilization	1	LS	$50,000.00	$50,000	45	$22,500	10	$5,000	45	$22,500
17	Adjust Utilities to Grade	1	LS	$10,000.00	$10,000					100	$10,000
18	Project Information Sign	2	EA	$700.00	$1,400	45	$630	10	$140	45	$630
19	Minor Drainage Improvements	1	LS	$50,000.00	$50,000					100	$50,000
20	**Sub Total of Construction Items:**				**$1,622,121**		$621,130		$394,140		$606,851
21	**Construction Item Contingencies** (% of Con Items):			**10**	162,212	**38% CM #1**		**24% CM #2**		**37% CM #3**	

Total Construction Items: 1,784,333

Note: 1. "Preliminary Engineering", "Right of Way", and "Construction Engineering" costs are accounted for in the Application Form.

2. See the Application Instructions for more details on the requirement that all Countermeasures (CM) used in the Benefit / Cost ratio calculations represent a minimum of 20% of the total cost of the Construction Items. The Engineer's Estimate will be used to verify this.