CITY OF BRISBANE

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M E M O R A N D U M

To: Infrastructure, Utilities & Franchise Subcommittee via City Manager

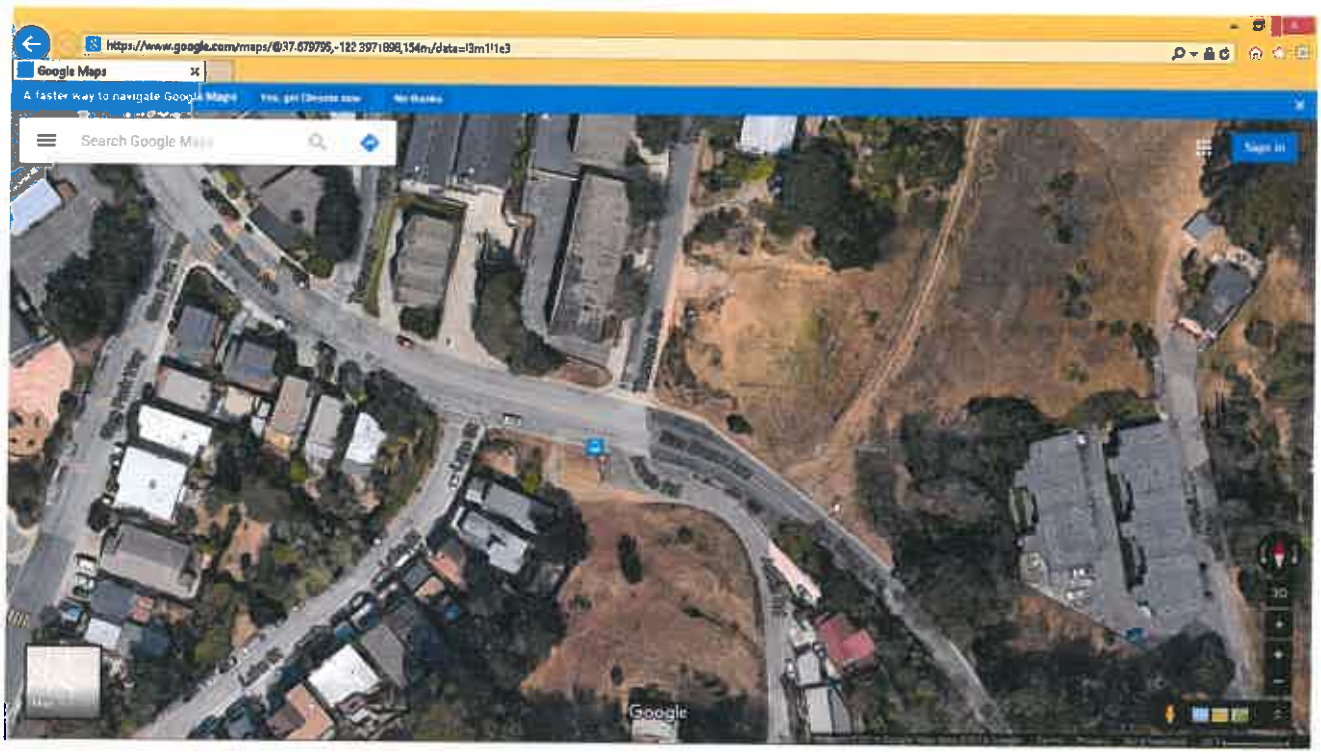
From: Randy Breault, Director of Public Works/City Engineer

Subject: Intersection Analysis (3)

Date: Meeting of 5/19/16

cc: Police Chief, Deputy Public Works Director

1. Upper Segment of San Bruno Avenue, generally at the crest between the intersections with Thomas Avenue and Annis Road.



The city received a citizen complaint regarding unsafe conditons on San Bruno Avenue, and requested the city place 2 stop signs on San Bruno, at its intersections with Thomas and Annis.

I provided the following information to the citizen to advise them on the next steps the city would take on this request:

First, the city will pull the last several years of collision data for this location from the Statewide Integrated Traffic Records System (SWITRS). DPW and BPD will evaluate the number of reported collisions, the primary contributing factor (PCF) of the collision, and make an initial evaluation as to whether the "tools" available to us (public education, enhanced spot enforcement, changes or revisions to traffic control devices, etc.) would likely reduce or eliminate the observed accidents.

While the SWITRS are being reviewed, DPW staff will place automatic traffic recorders at this location so that we can analyze the traffic volume, the mix of vehicles, and the speeds of these vehicles. This data will be used in conjunction with SWITRS review to fine-tune a selection of any tools that might be employed.

The final step for review will be a field visit to observe actual site conditions.

We have completed this work effort and note the following:

In the past three years, there is only one recorded accident in the vicinity of this location (Report #15-0827-003.) In this incident, a driver under the influence of alcohol was proceeding northbound on San Bruno, and shortly after the "intersection" in question made an unsafe turn into a housing area, subsequently rolling their vheicle and impacting other parked vehicles. Due to the PCF, there are no available tools that would likely have eliminated such an accident from occurring. This accident is currently being reviewed by the San Maeo County DA's office.

The reults of the traffic recorders being placed for two days showed that a total of 6,956 vehicles used this roadway during this time. The median speed was 18.3 mph, and the 85th percentile speed was 23.5 mph. From this data, the time period when an excessive number (much greater than 15%) of the vehicles are exceeding the posted 25 mph is 3 AM - 5 AM.

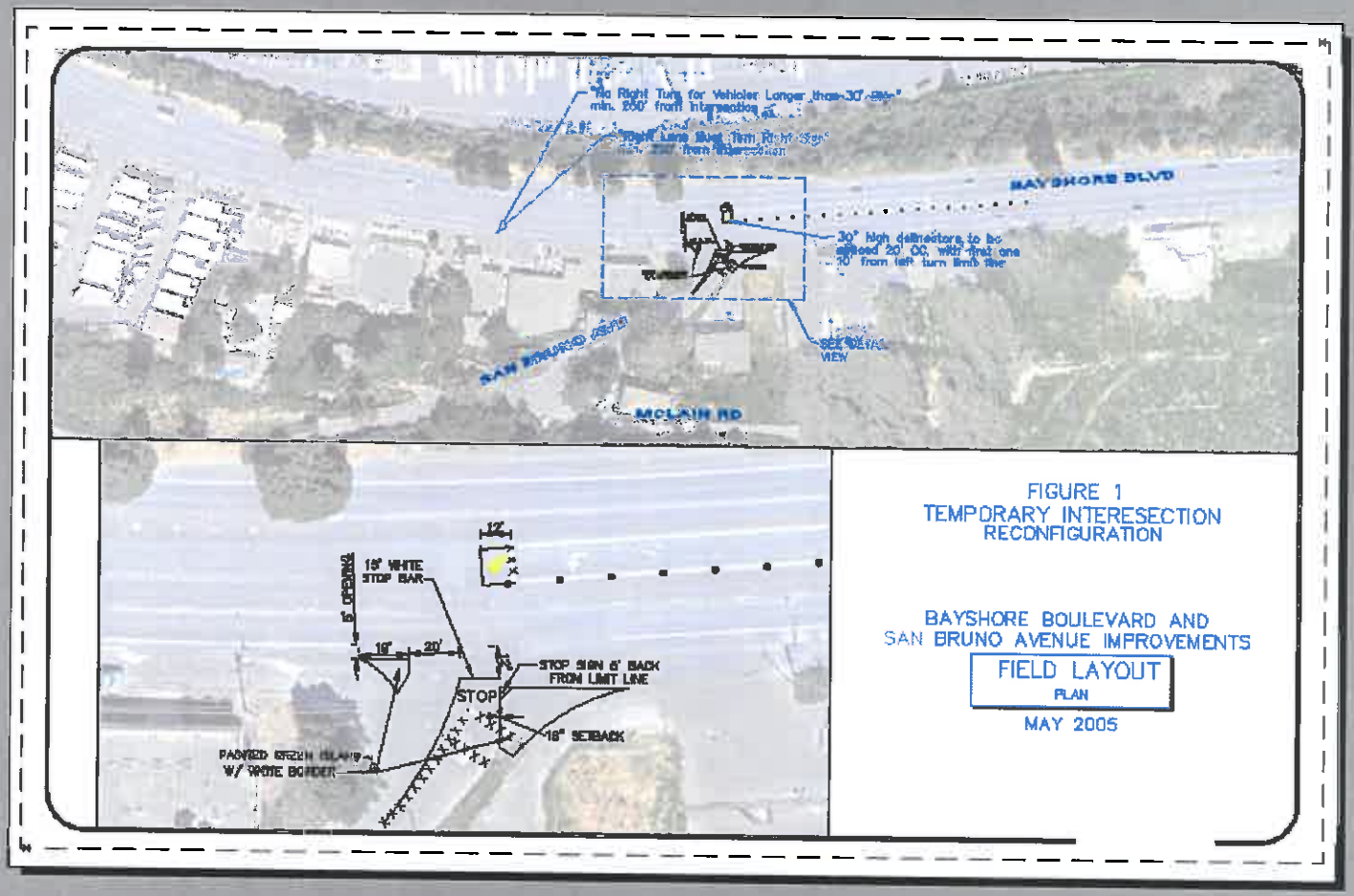
Based on this historical information, there is no warrant for the placement of stop signs at the requested locations. Should the subcommittee believe that some action is necessary, the City Engineer can support the following:

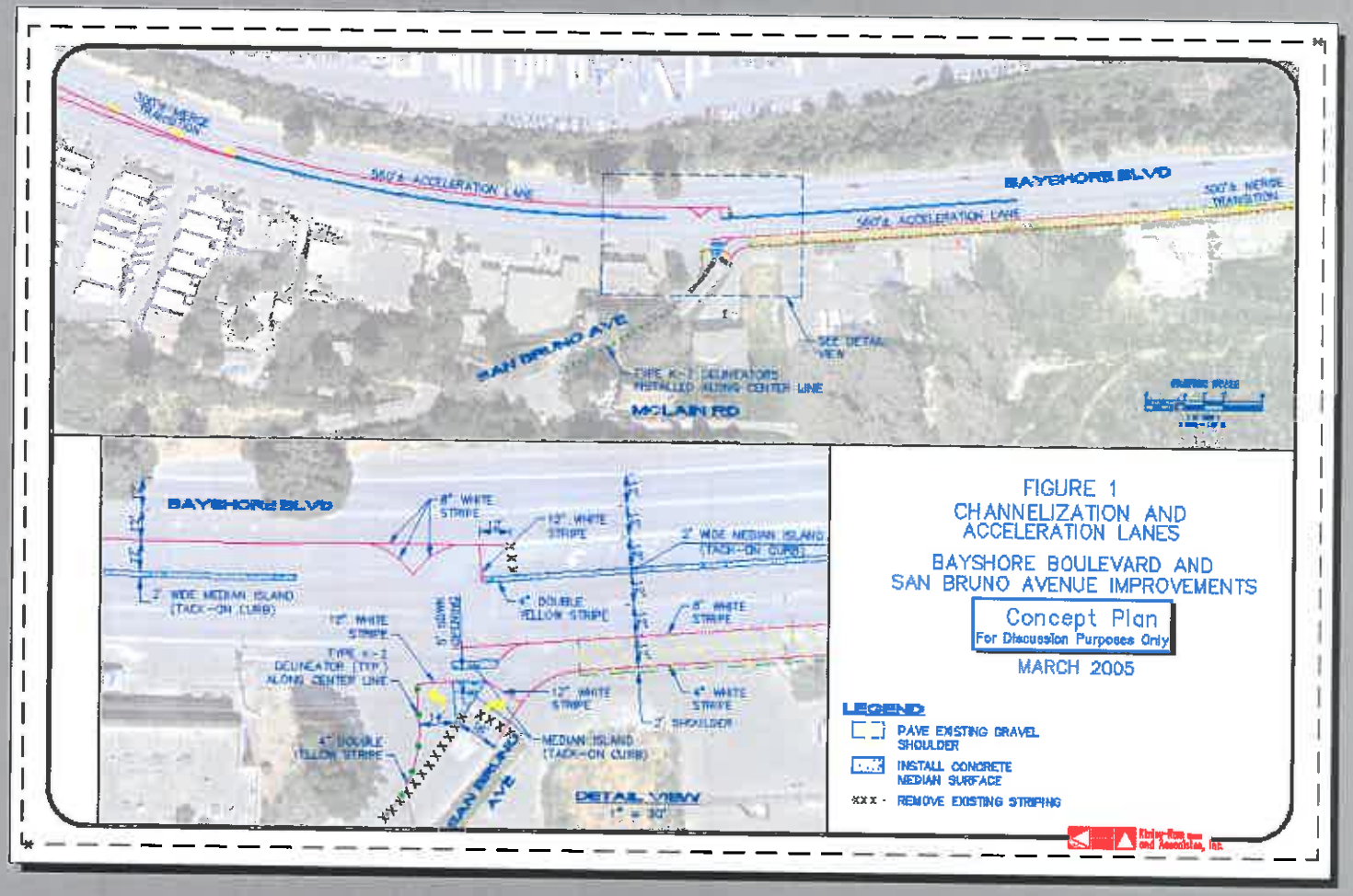
- Placement of signs on Thomas and Annis directing pedestrians to use the San Bruno crosswalk near Glen Park Way.

- Placement of No Left Turn signs on Thomas and Annis. (These could be 24-hour restrictive or only during specified time periods, presumably, the peak travel hours.) Before recommending this, the subcommittee might want to consider further the impact this restriction will have on the neighborhood west of San Bruno, specifically, how many cars would be forced to traverse a narrow section of Sierra Point, to reach Glen Park, and then join San Bruno near the school.

2. San Bruno Avenue at its intersection with Bayshore Boulevard

The current configuration of this intersection resulted from a Traffic Engineering Technical Assistance Program (TETAP) grant study in 2004. The final changes were discussed at three Council meetings in 2005. The current configuration and the proposed "ultimate" configuration from the study are shown on the following pages.


BAYSHORE BLVD
MCLAIN RD
STOP
STOP SIGN 6' BACK FROM LIMIT LINE
18" SETBACK
FIGURE 1
TEMPORARY INTERESECTION RECONFIGURATION
BAYSHORE BOULEVARD AND SAN BRUNO AVENUE IMPROVEMENTS
FIELD LAYOUT
PLAN
MAY 2005


BAYSHORE BLVD
560'± ACCELERATION LANE
500'± MERGE TRANSITION
SAN BRUNO AVE
TYPE K-1 DELINEATORS INSTALLED ALONG CENTER LINE
SEE DETAIL VIEW
McLAIN RD
DETAIL VIEW
1" = 30'
8" WHITE STRIPE
12" WHITE STRIPE
2' WIDE MEDIAN ISLAND (TACK-ON CURB)
4" DOUBLE YELLOW STRIPE
TYPE K-1 DELINEATOR (TYP.) ALONG CENTER LINE
2' SHOULDER
MEDIAN ISLAND (TACK-ON CURB)
FIGURE 1
CHANNELIZATION AND ACCELERATION LANES
BAYSHORE BOULEVARD AND SAN BRUNO AVENUE IMPROVEMENTS
Concept Plan
For Discussion Purposes Only
MARCH 2005
LEGEND
PAVE EXISTING GRAVEL SHOULDER
INSTALL CONCRETE MEDIAN SURFACE
XXX - REMOVE EXISTING STRIPING

The primary complaint regarding this intersection currently is the delays experienced by drivers wanting to head southbound, when vehicles in front of them are trying to cross over to travel northbound.

Prior to reconfiguring this intersection, BPD responded to multiple vehicle crashes at this intersection every year, as drivers attempted to merge onto southbound Bayshore without the benefit of good visibility and without an adequate length of acceleration lane. In the last three years, the only accident at this location has been a 2013 hit and run, when an eastbound San Bruno vehicle turned onto southbound Bayshore, striking the stop sign pole, and then fleeing.

Obviously, the reconfiguration of the intersection has prevented multiple accidents, but has resulted in some delays as drivers desiring to drive northbound on Bayshore continue to use the intersection, especially during peak periods.

The City Engineer offers the following options for the subcommittee to consider:

- Place No Left Turn signs at San Bruno/Bayshore, with a recommendation that the restriction only be for Monday-Friday 7 AM - 9 AM and 4 PM - 6 PM.
- Construct the "ultimate" project from the TETAP report. The cost for this was estimated at $200,000 in 2005.
- Create a three-way signalized intersection. The cost for this is estimated at $500,000.

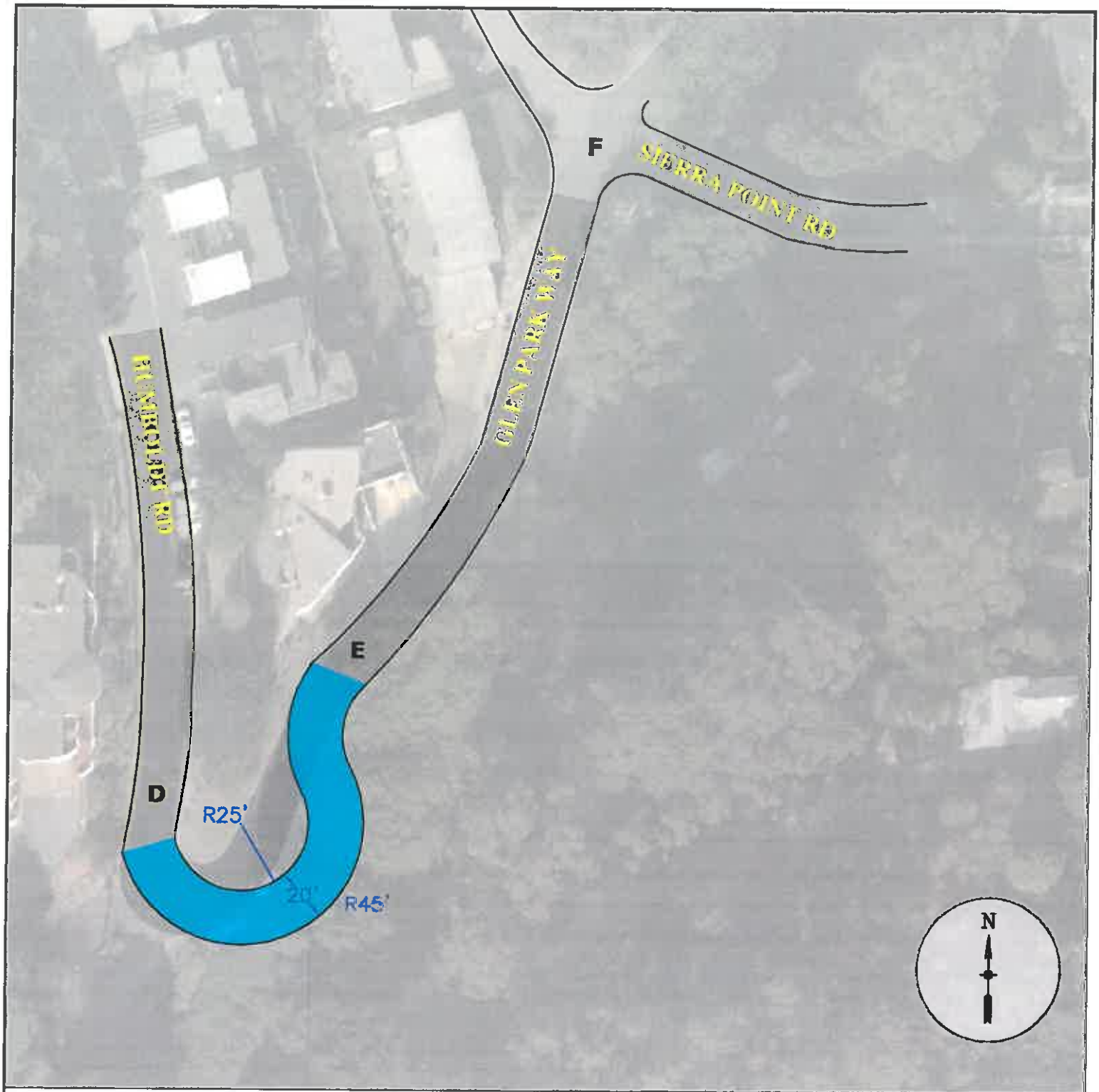
3. Glen Park Way at its intersection with Humboldt Road

By modern engineering standards, this intersection is substandard on three counts; inadequate radius, excessive vertical slope, and inadequate roadway width. Within the limits studied here (Glen Park Way, between Humboldt and Sierra Point), there was one accident reported in the last three years. In 2015, a postal delivery vehicle turned left from Humboldt onto Glen Park, struck the curb/embankment, and then rolled. The driver was found to be at fault for an unsafe turning movement (CVC 22107(a)).

The drawings on the following pages are provided for information:

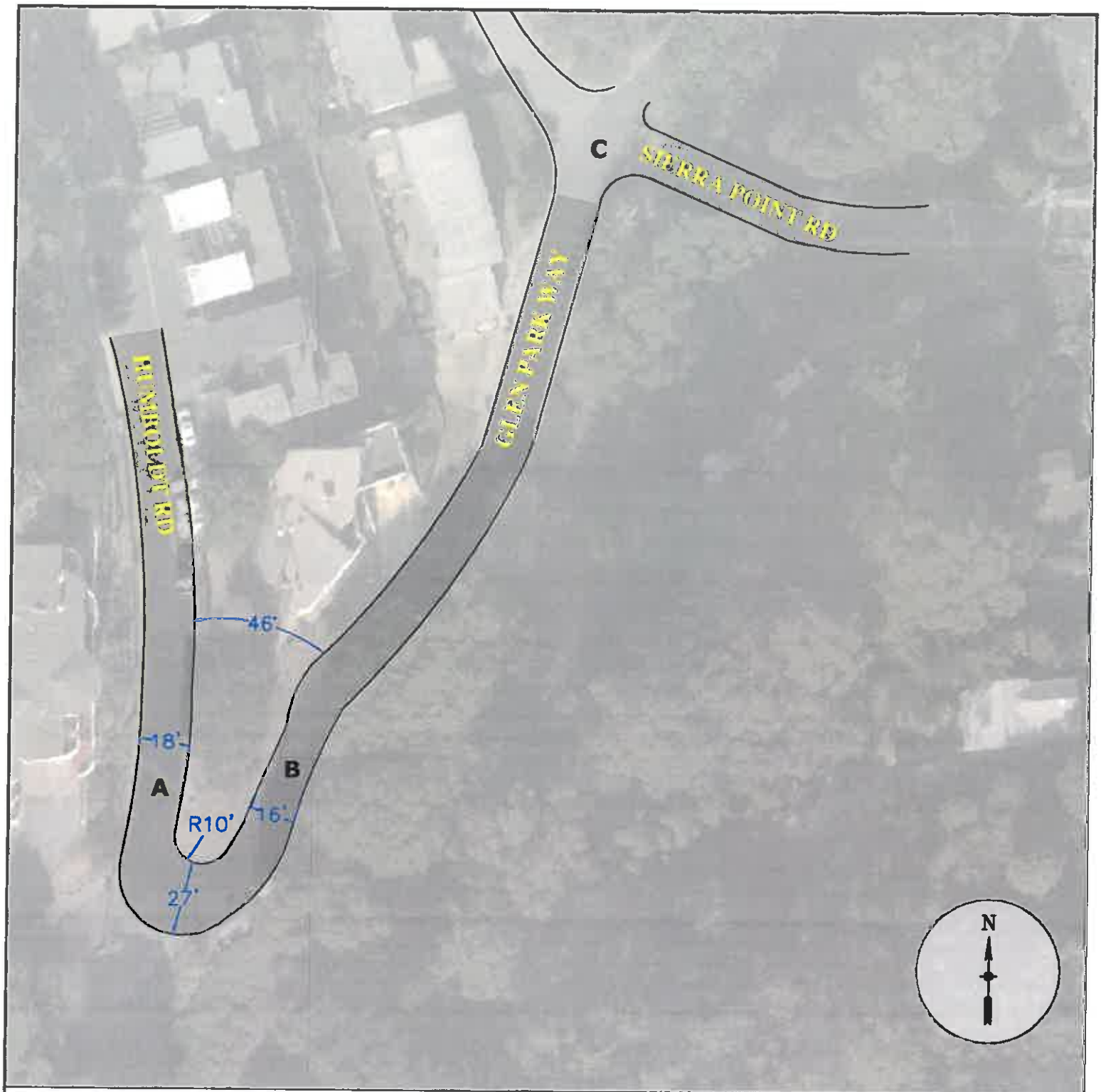
- Existing 10' Inner Radius; shows existing condition
- 25' Inner Radius; shows a possible realignment of the intersection to create a standard 25' radius and a 20' wide roadway.
- 25' Inner Radius - 200' Outer Radius; shows a complete roadway realignment to most closely match current engineering standards.

Staff assumed that the major encroachment into the canyon shown on the final bullet would not be palatable to the community. If the lesser encroachment shown in the second bullet is acceptable, staff would recommend the subcommittee direct staff to obtain a cost proposal for an engineering study to finalize a potential intersection realignment and cost estimate for the construction of it.



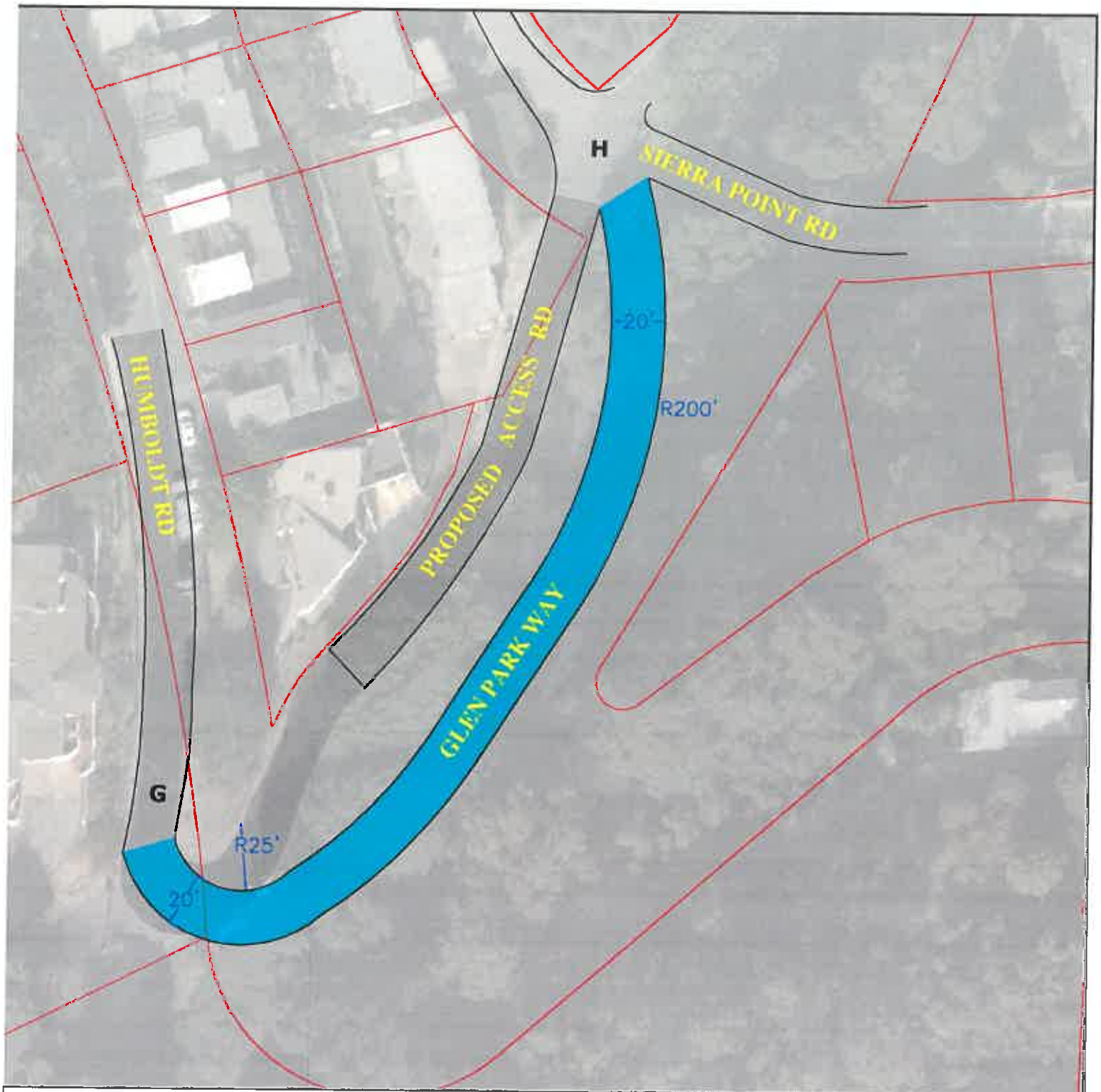
25' INNER RADIUS CORNER - GLEN PARK WAY TO HUMBOLDT ROAD

D - E : 10.0° = 17.6% slope	DATE: 04/13/16	**City of Brisbane** Public Works Department (415)508-2130 www.brisbaneca.org
E - F : 10.3° = 18.1% slope	SCALE: NA	
This option would relax the incline of the curve.		



EXISTING 10' INNER RADIUS CORNER - GLEN PARK WAY TO HUMBOLDT ROAD

A - B : 11.4° = 20.2% slope	DATE: 04/13/16	**City of Brisbane** Public Works Department (415)508-2130 www.brisbaneca.org
B - C : 10.3° = 18.1% slope	SCALE: NA	



25' INNER RADIUS - 200' OUTER RADIUS - GLEN PARK WAY TO HUMBOLDT ROAD

G-H : 9.9° = 17.5% slope	DATE: 04/14/16	**City of Brisbane** Public Works Department (415)508-2130 www.brisbaneca.org
	SCALE: NA	