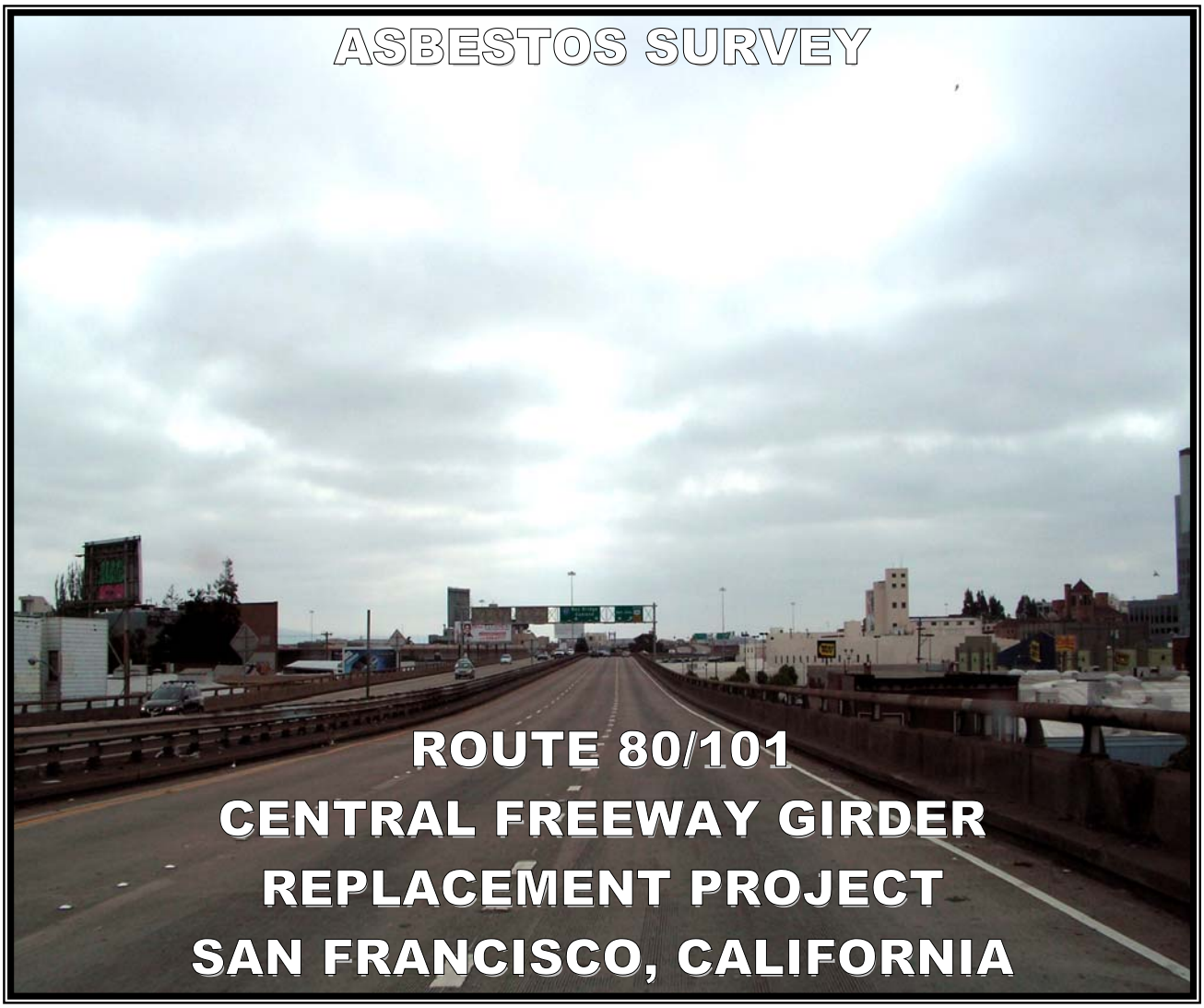
ASBESTOS SURVEY



ROUTE 80/101
CENTRAL FREEWAY GIRDER REPLACEMENT PROJECT
SAN FRANCISCO, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
111 GRAND AVENUE
OAKLAND, CALIFORNIA

PREPARED BY:
GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA

GEOCON PROJECT NO. E8435-06-28
CALTRANS EA 04-2A1401

JULY 2009

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. E8435-06-28
July 13, 2009

Mr. William Whiteley
Caltrans – District 4
111 Grand Avenue, 12th Floor
Oakland, California 94612

Subject: SUPPLEMENTAL ASBESTOS SURVEY REPORT
ROUTE 80/101 CENTRAL FREEWAY GIRDER REPLACEMENT PROJECT
SAN FRANCISCO, CALIFORNIA
CONTRACT NO. 04A2912
TASK ORDER NO. 28, EA 04-2A1401

Dear Mr. Whiteley:

In accordance with California Department of Transportation (Caltrans) Contract No. 04A2912 and Task Order No. 28 (TO-28), Geocon Consultants, Inc., has performed a supplemental asbestos survey at the project location. The scope of services was performed under TO-28 that was supplemental to TO-4, issued in December of 2007. The scope of services provided by Geocon for TO-28 included surveying designated guard rail segments of the Central and Bayshore Viaducts for suspect asbestos-containing materials.

PROJECT LOCATION AND PROPOSED IMPROVEMENTS

The supplemental survey was performed on designated guard rail segments along the Central Viaduct (Bridge No. 34-0077) from approximately 4th Street to the Bayshore Viaduct, and on the Bayshore Viaduct (Bridge No. 34-0088) from approximately 17th Street to Mission Street in San Francisco, California. The approximate project location is depicted on the attached Vicinity Map, Figure 1, and Project Limits Plan, Figure 2. The designated guard rail segments are indicated on the Site Plans, Figures 3a through 3c.

PURPOSE

The purpose of the scope of services was to determine the presence and quantity of asbestos prior to planned bridge improvement activities. The information obtained from this investigation will be used by Caltrans to estimate removal and disposal costs and coordinate abatement, if necessary, within the proposed project work areas.

BACKGROUND

The *Code of Federal Regulations (CFR),* 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains more than 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of non-friable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable; or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II non-friable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that may make it cost ineffective to do so. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

SCOPE OF SERVICES

Field Activities

The following field activities were performed in accordance with TO-28.

Mr. Chris Giuntoli, a California-Certified Asbestos Consultant (CAC), certification No. 02-3163 (expiration June 19, 2010) performed the asbestos survey at the project location on June 18 and 19, 2009.

Mr. Giuntoli coordinated with Caltrans to provide attenuator trucks and traffic control vehicles for rolling lane closures at the designated guard rail segments. During the supplemental survey, Mr. Giuntoli made visual observations at the designated guard rail segments for the presence of suspect asbestos-containing materials and photographed the areas surveyed.

SURVEY RESULTS

Suspect asbestos-containing materials were not observed at the designated guard rail segments included in our supplemental asbestos survey. Consequently, no bulk samples were collected. The designated guard rail segments are depicted on the Site Plans, Figures 3a through 3c. Photographs of the guard rail segments are attached (Photographs 1 through 20).

CONCLUSIONS AND RECOMMENDATIONS

Suspect asbestos-containing materials were not observed at the designated guard rail segments at the project location. Consequently, the Cal/OSHA asbestos standard does not apply for activities disturbing materials associated with the designated guard rail segments included in our survey. In addition, the guard rail segments that we surveyed would not be considered a California hazardous waste based on asbestos content. However, written notification to the Bay Area Air Quality Management District (BAAQMD) is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

LIMITATIONS

The survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos in structures. Asbestos may exist in inaccessible areas of the structures or areas not sampled in conjunction with this TO.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC

Chris Giuntoli, CAC
Senior Project Scientist

David Watts, CAC
Senior Project Scientist

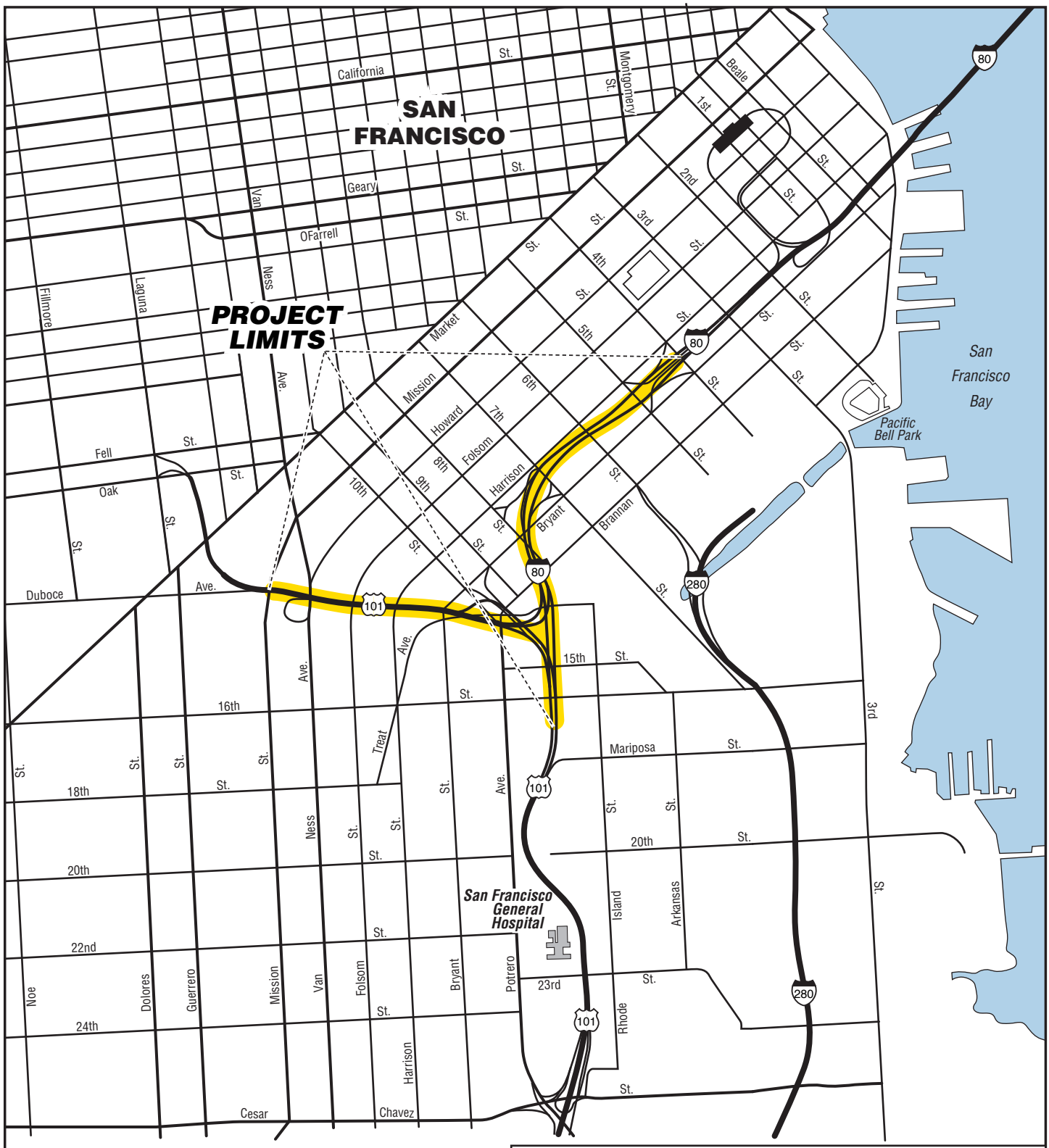
CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING

Reviewed By:	Recommended by:	Approved By:
William Whiteley, P.E. Task Order Manager	Ray Boyer, P.E. District Branch Chief	Allen Baradar, P.E., REA District Office Chief

CGG:DAW:cgg

(6 + 2CD) Addressee

Attachments: Figure 1, Vicinity Map
Figure 2, Project Limits Plan
Figure 3a through 3c, Site Plans
Site Photos 1 through 20



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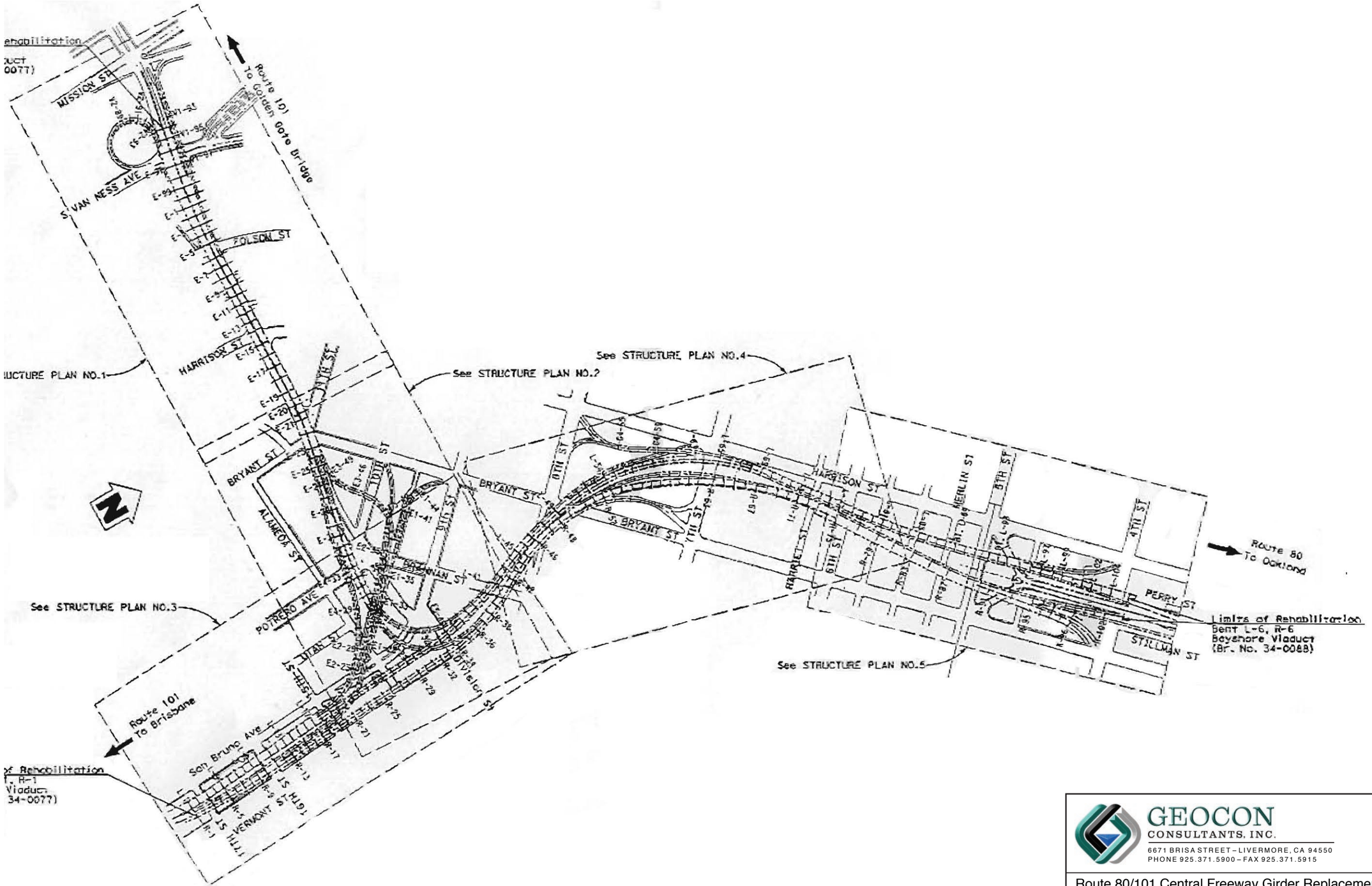
Route 80/101 Central Freeway Girder Replacement Project

San Francisco, California	**VICINITY MAP**	
GEOCON Proj. No. E8435-06-28		
Task Order No. 28, EA 04-2A1401	July 2009	Figure 1



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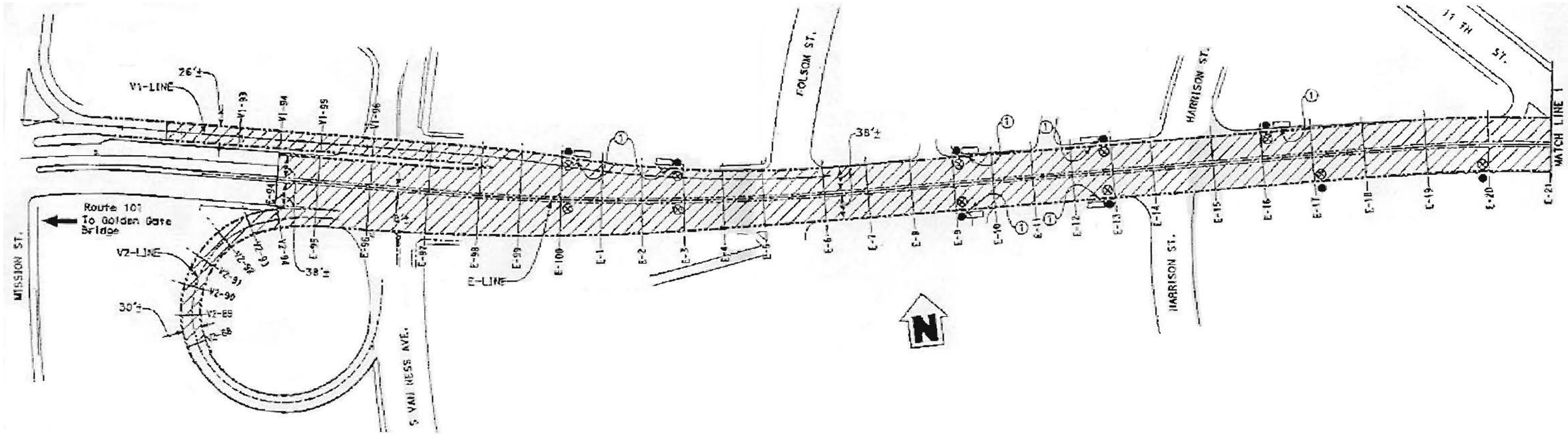
Route 80/101 Central Freeway Girder Replacement Project

San Francisco, California	**PROJECT LIMITS PLAN**	
GEOCON Proj. No. E8435-06-28		
Task Order No. 28, EA 04-2A1401	July 2009	Figure 2



CENTRAL VIADUCT
BRIDGE NO. 34-0077

LEGEND:

① Remove and Replace Portion of Existing Concrete Barrier Rail

● Indicates Downdrain Location

NO SCALE

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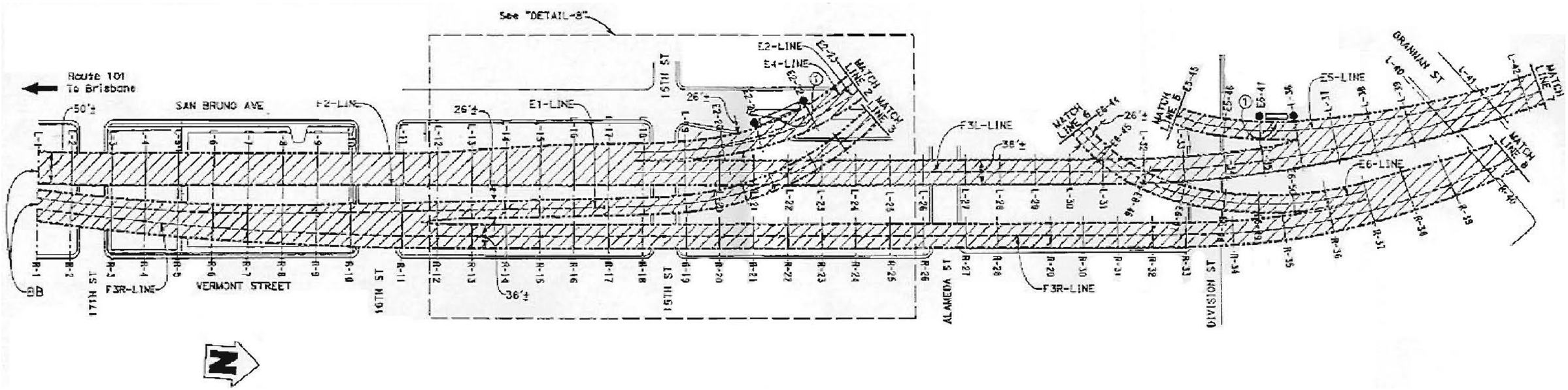
Bayshore and Central Viaducts		
San Francisco, California	**SITE PLAN**	
GEOCON Proj. No. E8435-06-28		
Task Order No. 28, EA 04-2A1401	July 2009	Figure 3a



CENTRAL AND BAYSHORE VIADUCTS

BRIDGE NOS. 34-0077 & 34-0088

LEGEND:

① Remove and Replace Portion of Existing Concrete Barrier Rail

● Indicates Downdrain Location

NO SCALE

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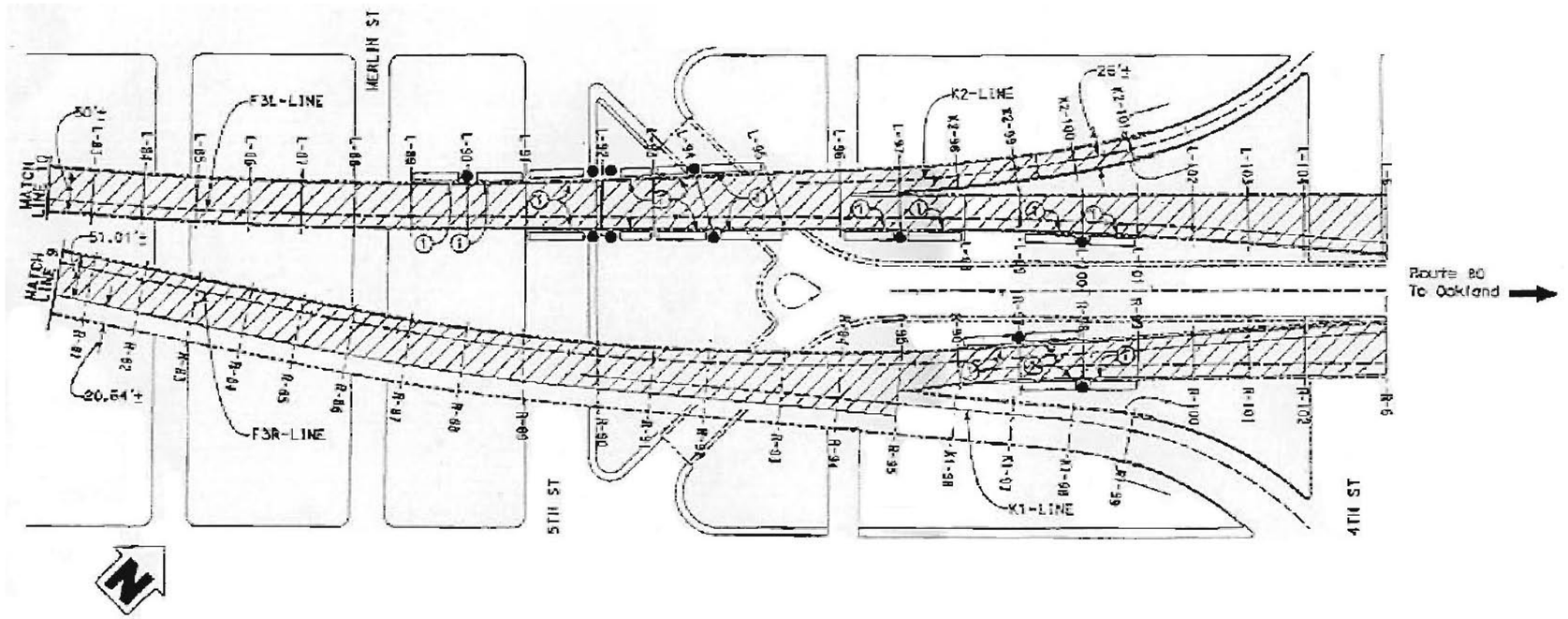
Route 80/101 Central Freeway Girder Replacement Project		
San Francisco, California	**SITE PLAN**	
GEOCON Proj. No. E8435-06-28		
Task Order No. 28, EA 04-2A1401	July 2009	Figure 3b



BAYSHORE VIADUCT
BRIDGE NO. 34-0088

LEGEND:

① Remove and Replace Portion of Existing Concrete Barrier Rail

● Indicates Downdrain Location

NO SCALE

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Route 80/101 Central Freeway Girder Replacement Project		
San Francisco, California	**SITE PLAN**	
GEOCON Proj. No. E8435-06-28		
Task Order No. 28, EA 04-2A1401	July 2009	Figure 3c

Photo 1 – Central Viaduct (Highway 80 westbound, Number 1 lane), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 2 – Central Viaduct (Highway 80 westbound, Number 1 lane), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 3 – Central Viaduct (Highway 80 westbound, 4th Street on-ramp), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 4 – Central Viaduct (Highway 80 westbound, 4th Street on-ramp), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 5 – Central Viaduct (Highway 80 westbound, 4th Street on-ramp), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 6 – Central Viaduct (Highway 80 westbound, connector ramp to Bayshore Viaduct), typical guard rail post at proposed replacement segment (no suspect materials)

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PHOTOGRAPHS 4, 5, & 6		
Route 80/101 Central Freeway Girder Replacement Project San Francisco County, California		
E8435-06-28		July 2009

Photo 7 – Central Viaduct (Highway 80 westbound, connector ramp to Bayshore Viaduct), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 8 – Bayshore Viaduct (Highway 101 northbound), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 9 – Bayshore Viaduct (Highway 101 northbound), typical guard rail post at proposed replacement segment (no suspect materials)

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PHOTOGRAPHS 7, 8, & 9		
Route 80/101 Central Freeway Girder Replacement Project San Francisco County, California		
E8435-06-28		July 2009

Photo 10 – Bayshore Viaduct (Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 11 – Bayshore Viaduct (Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 12 – Bayshore Viaduct (Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

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Photo 13 – Bayshore Viaduct (connector ramp to Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 14 – Bayshore Viaduct (connector ramp to Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 15 – Bayshore Viaduct (connector ramp to Highway 101 southbound), typical guard rail post at proposed replacement segment (no suspect materials)

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PHOTOGRAPHS 13, 14, & 15		
Route 80/101 Central Freeway Girder Replacement Project San Francisco County, California		
E8435-06-28		July 2009

Photo 16 – Central Viaduct (Highway 80 eastbound, Number 1 lane), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 17 – Central Viaduct (Highway 80 eastbound, Number 1 lane), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 18 – Central Viaduct (Highway 80 eastbound, Number 3 lane), typical guard rail post at proposed replacement segment (no suspect materials)

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Photo 19 – Central Viaduct (Highway 80 eastbound, Number 3 lane), typical guard rail post at proposed replacement segment (no suspect materials)

Photo 20 – Central Viaduct (Highway 80 eastbound, Number 3 lane), typical guard rail post at proposed replacement segment (no suspect materials)