Agency Comment Letters and Responses on the Draft EIS/EIR for the Van Ness Avenue Bus Rapid Transit Project

Appendices I (contd')

APPENDIX I

Agency Comment Letters and Responses

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

November 21, 2011

Rachel Hiatt, Senior Environmental Planner
100 Van Ness Avenue, Floor 26
San Francisco, California 94102

RECEIVED NOV 2 3 2011

Dear Ms. Hiatt:

This is in response to your request for comments on the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for Van Ness Avenue BRT Project San Francisco County.

Please consult with the City and County of San Francisco. While the City of San Francisco, San Francisco County, California is a participant in the National Flood Insurance Program (NFIP), there are no published FIRMs at this time. The City uses the Preliminary FIRMs to guide development. The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65. A-1-1

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The San Francisco County floodplain manager can be reached by calling Linda Yeung, Deputy City Administrator, at (415) 554-7124.

If you have any questions or concerns, please do not hesitate to call me at (510) 627-7186.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
Linda Yeung, Deputy City Administrator, City and County of San Francisco
Ray Lee, WREA, State of California, Department of Water Resources, North Central Region Office
Gregor Blackburn, CFM, Branch Chief, Floodplain Management and Insurance Branch, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: FEMA

Reviewer's Comment Number	Response
A-1-1	According to the 2007 Preliminary Flood Insurance Rate Map (FIRM) maps the project site is not located within a floodplain. Nonetheless, the SFMTA will consult with the City and County of San Francisco regarding floodplain management building requirements that may apply to project design as standard practice and design review during project final design.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 14, 2011

Mr. Alexander Smith
Federal Transit Administration, Region IX
201 Mission Street, Suite 1650
San Francisco, CA 94105

Subject: Draft Environmental Impact Statement for the Van Ness Avenue Bus Rapid Transit Project, San Francisco, California (CEQ #20110372)

Dear ~~Mr. Smith~~ Alex:

The Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

A-2-1

We commend the Federal Transit Administration and the San Francisco County Transportation Authority for seeking to improve transit service and the pedestrian environment in the Van Ness Avenue corridor. We also support efforts to reduce the quantity of stormwater runoff entering the combined sewer system and maximize onsite treatment, as proposed in the *San Francisco Better Streets Plan*, and encourage use of tools such as permeable paving, infiltration planters, vegetated swales, and rain gardens in final design of the project.

A-2-2

We have rated this Draft Environmental Impact Statement (DEIS) as LO, *Lack of Objections*. Please see the attached *Rating Factors* for a description of our rating system.

Also, please note that San Francisco County is federally designated as nonattainment for $PM_{2.5}$, in addition to ozone, as indicated in the text of the DEIS.

We appreciate the opportunity to review the DEIS. When the Final EIS is released for public review, please send one CD copy to the address above (mail code: CED-2). If you have any questions, please contact Carolyn Mulvihill, the lead reviewer for this project, at 415-947-3554 or mulvihill.carolyn@epa.gov.

Sincerely,

Connell Dunning, Transportation Team Supervisor
Environmental Review Office
Communities and Ecosystems Division

Enclosures:
Summary of EPA Rating Definitions

cc: Rachel Hiatt, San Francisco County Transportation Authority

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: USEPA

Reviewer's Comment Number	Response
A-2-1	As explained in Section 4.9.3.1 Hydrologic Impacts, permeable paving, infiltration planters, swales, and rain gardens are San Francisco Better Streets Plan concepts that have been identified for consideration during the 30 percent design engineering of the preferred alternative.
A-2-2	The rating of the Draft Environmental Impact Statement as "LO," Lack of Objections is part of the project administrative record.

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN, Governor

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-6301
TTY 711

Flex your power!
Be energy efficient!

December 19, 2011

Michael,
Yolanda knows This went to you.

Ms. Rachel Hiatt
Senior Transportation Planner
San Francisco County Transportation Authority (SFCTA)
100 Van Ness Avenue, 26th Floor
San Francisco, CA 94102

Dear Ms. Hiatt,

The purpose of this letter is to submit the California Department of Transportation's (Caltrans) comments regarding the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/S) for the proposed Van Ness Avenue Bus Rapid Transit (BRT).

Based on our review, the traffic operations information presented in the DEIR/DEIS is inconsistent with the traffic operations analysis results in the *Transportation Operations Performance Results – Package "B"* report dated 8/31/2010. A-3-1

In addition, the traffic operations information presented in the DEIR/DEIS appears to be inconsistent with the latest draft Project Study Report/Project Report. The Department , however, does intend to continue working closely with the SFCTA to address, resolve and reconcile a number of operational issues raised during the course of our review of the DEIS/R and the design issues raised in our review of the most recent draft Project Study Report/Project Report (PSR/PR) submitted by the SFCTA. A-3-2

Please contact me at (510) 286-5231 or Yolanda Rivas, Office Chief of Environmental Analysis at (510) 286-6126 for more information.

Sincerely,

Yolanda Rivas

MELANIE BRENT
Supervising Environmental Planner

c: Tilly Chang (SFCTA Deputy Director), Shari Tavafrashti (SFCTA Project Manager & Principal Engineer, Capital Projects), Jose Louis Moscovich (SFCTA Executive Director)

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: Caltrans

Reviewer's Comment Number	Response
A-3-1	The Transportation Operations Performance Results -- Package B, dated 8/31/2010 comprised draft text for the transportation analysis used in Chapter 3 of the analysis. Based on Caltrans (and other agency/stakeholder) inputs, the text in the Draft EIS/EIR as well as the Vehicular Traffic Analysis Technical Memorandum supersede the Transportation Operations Performance Results. These documents are consistent with the traffic operations in the Project Study Report/Project Report. Since the time of this comment, the project team has met with Caltrans staff, which found the documents to be consistent with the traffic operations information presented in the EIS/EIR.
A-3-2	Please see response to comment A-3-1.

From: David Davenport [DDavenport@goldengate.org]
Sent: Mon 12/19/2011 4:25 PM
To: vannessbrt@sfcta.org
Subject: [vannessbrt] Van Ness BRT Draft EIS/EIR Comments

Please find a copy of the Golden Gate Bridge, Highway and Transportation District's comments regarding the Van Ness Bus Rapid Transit Project Draft EIS/EIR below. A signed hard copy has been placed in the mail. Thank you.

December 19, 2011

Mr. Michael Schwartz
Transportation Planner
San Francisco County Transportation Authority
100 Van Ness Avenue, 26th Floor
San Francisco, CA 94102

Re: Van Ness Avenue Bus Rapid Transit Project Draft EIS/EIR

Dear Mr. Schwartz:

Golden Gate Bridge, Highway and Transportation District (District) staff has reviewed the Draft EIS/EIR for the Van Ness BRT Project and offers the following comments.

District staff raised several issues when it reviewed the Administrative Draft EIS/EIR, and it appears those issues have been addressed in the Draft EIS/EIR. The District appreciates accommodations so that Golden Gate Transit (GGT) buses can effectively serve Van Ness Avenue once the Bus Rapid Transit Project is completed. **A-4-1**

The District understands that there will be construction impacts as part of this project, as identified in Section 4.15. District staff looks forward to working with SFCTA to minimize the effect of those impacts on GGT bus operations and passengers. **A-4-2**

Based on our understanding of the project alternatives, the District would like to formally express its preference for Alternative 3. Alternative 3, which allows for right-side passenger boarding in a center-running busway, benefits GGT passengers more than Alternative 4, while improving bus operations more than Alternative 2. However, if Alternative 4 is selected as the locally preferred alternative, the District has a strong preference for right-side boarding platforms at Union Street rather than curbside bus stops at Chestnut Street. **A-4-3** **A-4-4**

Thank you for providing the District with the opportunity to submit comments on the Van Ness Avenue Bus Rapid Transit Project Draft EIS/EIR. We look forward to working with SFCTA as this project is implemented. You may contact Barbara Vincent, Principal Planner, at (415) 257-4465 if you have any questions regarding these comments.

Sincerely,

Ron Downing
Director of Planning

c: B. Vincent, C. Koch, D. Davenport, R. Hibbs, File

David Davenport, Associate Planner
Golden Gate Bridge, Highway & Transportation District
(415) 257-4546

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: Golden Gate Bridge, Highway, & Transportation District

Reviewer's Comment Number	Response
A-4-1	Thank you for your comment indicating that previously raised issues have been addressed in the EIS/EIR.
A-4-2	The project team will continue to work with District staff on how to minimize disruption to Golden Gate Transit (GGT) service during construction. For example, most existing stops will be maintained during construction as feasible, or a replacement stop in the immediate vicinity will be created. The SFMTA and GGT have similar goals to maintain transit access during construction, and the traffic management plan (described in Section 4.15) will use best practices to minimize traffic and transit delays. Please see Master Response #6 for additional information about project construction.
A-4-3	Support for Build Alternative 3 noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the LPA. The LPA allows for right side boarding.
A-4-4	Build Alternative 4 was not selected as the LPA. The staff recommended LPA maintains a Golden Gate Transit Stop at Union Street.

SFDPH
Environmental HEALTH
improving environments
protecting health

San Francisco
Department of Public Health

December 16, 2011

Ms. Rachel Hiatt
Senior Transportation Planner
San Francisco Country Transportation Authority
100 Van Ness Avenue, 26th Floor
San Francisco, CA 94102

Re: Van Ness Avenue BRT draft EIR/EIS noise assessment

Dear Ms Hiatt:

Please accept the following comments on the draft EIS/ EIR concerning the assessment and management of transportation noise.

The adequate consideration and management of traffic noise through the planning of transportation facilities and operations is very important to public health. Human impacts of noise, including those on stress, mental function, learning, and hypertension, are determined primarily by background or ambient noise levels. Traffic noise is the predominant contributor to background or ambient noise levels in urban areas and existing levels of traffic noise are already at unhealthy levels in large areas of San Francisco. Furthermore, because the standards in city noise regulations are relative to ambient levels, any increase in the ambient level makes our city's enforceable noise regulations less health protective.

As articulated in the San Francisco General Plan Environmental Protection Element, noise-sensitive land use and transportation planning and design are *the primary policy means* to manage ambient noise levels. Currently, no city noise regulations limit or control traffic noise levels during the operation of transportation facilities. The Department of Public Health very much supports bus rapid transit (BRT) on Van Ness. BRT projects have great potential to equitably improve the quality and reliability of public transportation for all city residents and to reduce the significant public health costs of automobile-based travel. We hope these comments on the noise analysis and recommendations for design contribute to a successful project.

A-5a-1

A-5a-2

1. In the discussion of the policy and regulatory setting, please enumerate objectives and policies in the *San Francisco's General Plan Environmental Protection Element* section on transportation noise, specifically those policies that might be reasonably affected by this project, including policies under Objective 9, *Reduce Transportation-Related Noise* and Objective 10, and *Minimize The Impact Of Noise On Affected Areas*.

A-5a-3

1390 Market Street
Suite 822
San Francisco, CA 94102
Phone 415.252.3931
Fax 415.252.3818
www.sfenvironmentalhealth.org

2. The Federal Transportation Agency criteria for cumulative noise assessment (which is applied in the impact analysis) is not described or presented in the regulatory setting (4.11.2.1) I would suggest adding an explanation of cumulative criteria and how these cumulative criteria differ from project noise criteria. I would also suggest adding either Figure 3.2 or Table 3.3 from the FTA transit noise guidelines. **A-5a-4**

3. Unfortunately, the authors of the DEIR appear to have mis-applied San Francisco Police Code §2909 in proposing a 5-dB increment as a significance threshold for noise for this project. The Department of Public Health and the DPH Noise Control Officer are responsible for enforcement of Section 2909 of the Code and responsible for interpretation, monitoring and enforcement of all city noise regulations under Article 2900. While any increase in background levels of noise are of public health concern, no Section 2909 standards currently apply to changes in the ambient noise level or to changes in traffic noise levels. Most standards under §2909 are relative, that is, they provide for acceptable sound levels *above an existing ambient level*. In the application of these standards, the ambient level is defined as the lowest sound level repeating itself during a minimum ten-minute period. Traffic noise is a major component of ambient noise. Measures used to assess Section 2909 standards are short term measurements of noise (< 10 minutes) and criteria are not applied to long term measurements taken for noise analysis including the Leq (1hr) and the Ldn. Section 2909 standards apply only to noise emissions from mechanical and electronic equipment and are not applicable to traffic noise. **A-5a-5**

4. Section 2909(d) provides a project-relevant absolute standard for the maximum level of noise in an interior habitable room that can produced by a fixed exterior source of noise. This standard is provided to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment. Under this standard, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed. The standard in Section 2909(d) should be identified in discussion of the regulatory setting as it would be applicable to any fixed project-noise sources (e.g., noise sources on boarding platforms). The standard applies to short term noise measures across the day and night. **A-5a-6**

5. The California Noise Insulation Standards (California Code of Regulations, Title 24 §1207.11.3) includes a health protective interior noise standard of 45 dBA Ldn. This 45 dBA Ldn standard for habitable indoor room is the same as the level that recommended by the US EPA. This standard is intended to be protective from *all* exterior urban noise sources *including traffic noise*. The standard is usually applied in the context of building construction but could have broader applicability in environmental review (see discussion below). **A-5a-7**

6. Ambient noise levels along the corridor approach or are greater than 70 dB Ldn, meaning that project area has among the highest levels of traffic noise in San Francisco. To illustrate the noise environment in a city context, the EIR/EIS could incorporate the San Francisco Background Noise Level Map Noise Map into the description of the affected environment. The map estimates noise levels (Ldn) for all city streets based on vehicle volume, type and, speed utilizing on the SOUNDPLAN® program. This map is attached and contained within the General Plan Environmental Protection Element. **A-5a-8**

7. Most noise related health and welfare impacts are based on cumulative noise levels and not on project noise emissions. Impact evaluation for this project (Tables 4-11-4 and 4.11-5), appropriately includes evaluation of cumulative noise levels, however, from the analysis, it is not clear whether impact analysis judgments against FTA criteria are based on project noise level criteria, cumulative noise level criteria, or both. I would suggest adding the cumulative threshold level to the tables for clarity and specifying conformity with both levels separately. **A-5a-9**

8. Please remove from the EIR/EIS the noise analysis based on Section 2909 of the San Francisco Police Code ("City Noise Criterion"). For the reasons stated above, current San Francisco law does not provide support for such a standard or its application to the measures taken in this analysis. A-5a-10

9. Consider applying the 45 dBA Ldn standard in the State Building Code, along with an appropriate exterior to interior noise transmission factor, as a health protective standard to evaluate current and future levels of traffic noise. An ambient level, at a residential building plane, of >60 dB Ldn would be a useful proxy for violation of the 45 dB Ldn interior standard. Along the Van Ness corridor, traffic noise levels are already above this standard and well above other health based guidelines for residential locations. Given this, the project should aim to avoid any further deterioration in the noise environment. Where projects either significantly contribute to or worsen ambient noise levels, they should mitigate these effects, for example, by providing additional acoustical insulation of existing buildings. A-5a-11

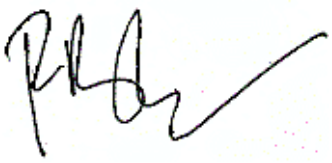
10. In the impact analysis, consider discussion of physical infrastructure and design elements of this project relevant to General Plan policies for transportation noise. For example, Policy 9.1 states, *Limit City purchases of vehicles to models with the lowest noise emissions and adequately maintain City-owned vehicles and travel surfaces.* A-5a-12

11. Given that the project will result in minor increase in cumulative noise levels at some locations, we strongly concur with Improvement Measure 1-NO-1, requiring maintenance of streets to limit noise. We would suggest incorporating additional improvement measures, including those related to the purchase of quiet vehicles and vehicle maintenance. A-5a-13

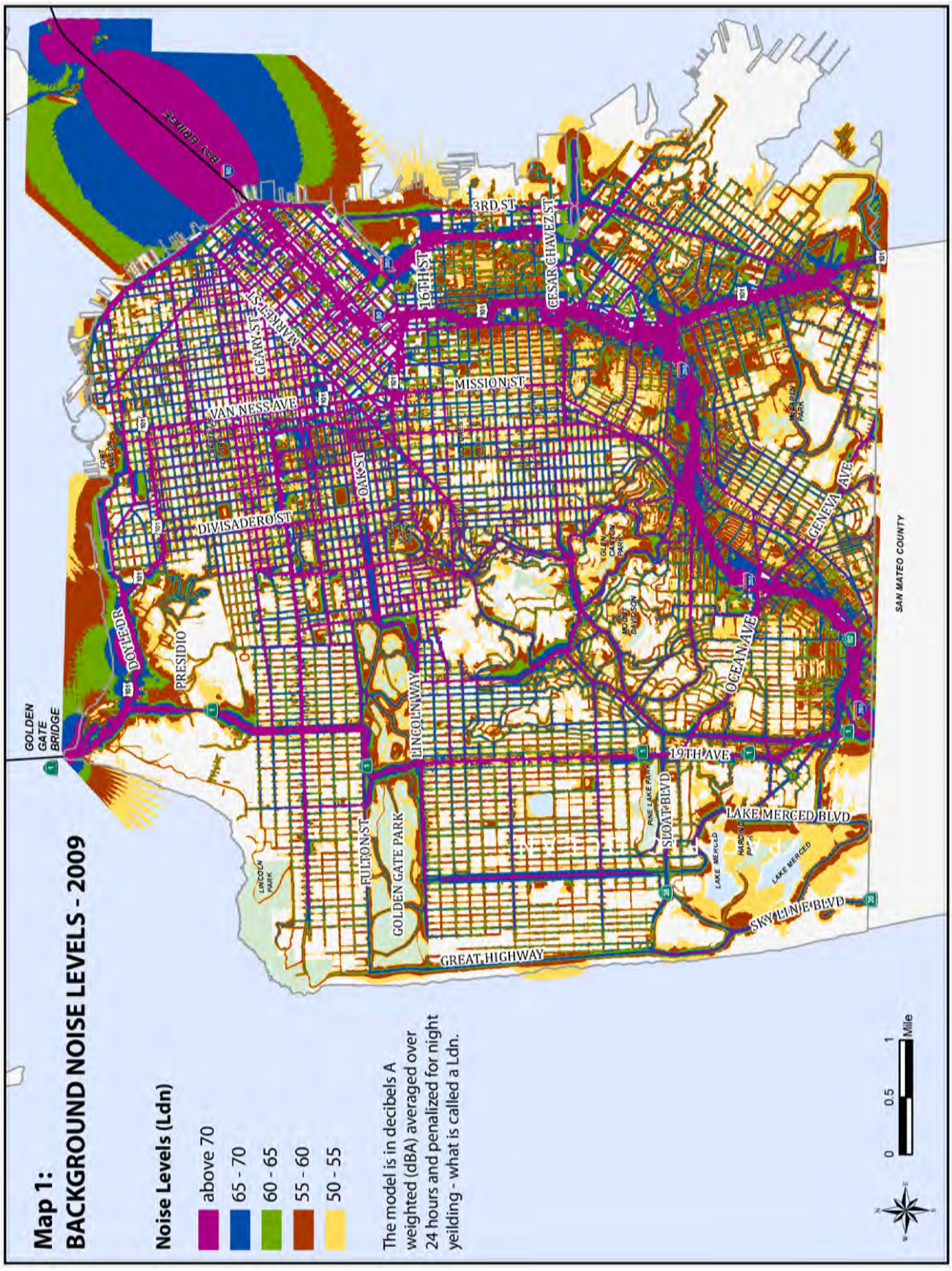
12. Consider as an additional improvement measure ensuring that the structural design of bus stops includes a review by an acoustical engineer for the purpose of limiting noise associated with passenger waiting and boarding. Each of the design options may be somewhat better or worse at shielding noise associated with stops and loading. Acoustical analysis of structural design could examine effects on noise sources including braking, acceleration, passenger loading, and public communication. A-5a-14

Thank you for your consideration of these comments. Please do not hesitate to contact me if you have any questions.

Sincerely,



Rajiv Bhatia, MD, MPH
Director, Occupational and Environmental Health


Map 1:
BACKGROUND NOISE LEVELS - 2009
Noise Levels (Ldn)
above 70
65 - 70
60 - 65
55 - 60
50 - 55
The model is in decibels A weighted (dBA) averaged over 24 hours and penalized for night yeilding - what is called a Ldn.
GOLDEN GATE BRIDGE
BAY BRIDGE
DOYLE DR
PRESIDIO
FORT MASON
DIVISADERO ST
VAN NESS AVE
GEARY ST
MARKET ST
OAK ST
FULTON ST
LINCOLN WAY
GOLDEN GATE PARK
LINCOLN PARK
GREAT HIGHWAY
MISSION ST
16TH ST
3RD ST
CESAR CHAVEZ ST
GLEN CANYON PARK
MOUNT DAVIDSON
OCEAN AVE
GENEVA AVE
19TH AVE
SLOAT BLVD
PINE LAKE PARK
LAKE MERCED BLVD
HARDING PARK
LAKE MERCED
SKYLINE BLVD
SAN MATEO COUNTY
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Mile

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Health

Reviewer's Comment Number	Response
A-5a-1	The commenter is correct. Please see response to comment A-5a-5 below.
A-5a-2	Support for project noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for analysis supporting the staff recommended LPA which proposes to build BRT for some of the same reasons noted in the comment.
A-5a-3	EIS/EIR Section 4.11.3 (Regulatory Setting) focuses on regulation and guidance relevant to quantitative noise impact criteria for assessing project and cumulative noise impacts. The policies referred to by the commenter do not directly relate to the applicable criteria. However, in response to this comment, policies bearing some relationship to the proposed project are referenced in the Draft EIS/EIR Section 4.11.3 (Regulatory Setting).
A-5a-4	Section 4.11.3 (Regulatory Setting) of the EIS/EIR displays Figure 3-1 from the FTA Transit Noise and Vibration Impact Assessment Guidelines (http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf). Per the commenter's request, Figure 3-2 from the FTA Guidelines has been added to this section of the Final EIS/EIR. Note that FTA Guidelines Figures 3-1 and 3-2 are simply two different perspectives on the same set of criteria. Although the curves in Figure 3-1 are defined in terms of the project noise exposure and the existing noise exposure, it is the increase in the cumulative noise – when project is added to existing – that is the basis for the criteria. A brief explanation of these two perspectives has been added to the Final EIS/EIR.
A-5a-5	The commenter is correct that Section 2909, the noise limit from the City's municipal code, does not discuss transportation noise. As explained in Section 4.11.3, because the SFCTA is the lead agency under CEQA noise and vibration impact evaluation considers the available criteria set forth by the City of San Francisco, in addition to criteria set forth by the FTA. Section 4.11.3.2 of the Final EIS/EIR has been revised to explain that Section 2909 states that the City defines the generally accepted threshold for a clearly perceptible sound increase from a stationary source as 5dB, and that the City does not specify a threshold for transportation noise or another applicable, nonstationary source. The revised text explains that the noise threshold set forth in Section 2909 may not be the most appropriate threshold for evaluating a transit project on Van Ness Avenue, but nonetheless this threshold was considered since it is the only available, City threshold. Moreover, Table 7-1 CEQA Significance Criteria in the Final EIS/EIR was revised to state that, "The FTA thresholds were applied to determine impacts because the FTA Transit Noise and Vibration Impact Assessment (FTA, 2006) methodology and thresholds are the established method for evaluating noise and vibration impacts of transit improvements such as the proposed project. No such threshold has been established by the City of San Francisco, and the City's Municipal Code Section 2909 described below is not an appropriate threshold. Nonetheless it is considered as a frame of reference." The EIS/EIR indicates that future traffic noise level (Ldn) values at residential and hotel receivers along Van Ness Avenue would range from 72 to 77 dBA with the project. According to the City's Background Noise Level Map of 2009, the Franklin and Gough Street corridors experience roadside traffic noise level (Ldn) values above 70 dBA. Therefore, in accordance with the SFCTA guidelines, the noise level increase threshold would be 3 dB for this project. The predicted future increase in noise levels along Van Ness

Avenue is 1 dB, while the maximum cumulative increase in Ldn predicted along either Franklin or Gough streets is 2.2 dB. Therefore, no significant impacts are anticipated using the Section 2909 guidelines.

A-5a-6 No fixed noise sources associated with BRT stations or any other components of the proposed project were identified that posed a risk of violating the referenced Noise Ordinance provision at the nearest applicable noise-sensitive receivers. Accordingly, the referenced provision was not applied in the noise assessment.

A-5a-7 The noise standard referenced by the commenter relates to sound insulation requirements for multifamily residential construction under Title 24. It is not directly relevant to the evaluation of the noise impacts of a transportation project at existing multifamily residences. In addition, it does not provide a threshold for project contribution to noise.

A-5a-8 Existing noise levels reported in Tables 4.11-4 and 4.11-5 are reasonably consistent with the referenced noise map and are based on corridor-specific noise measurement data. They already demonstrate that existing noise levels along Van Ness Avenue and surrounding streets are high. Nevertheless, the referenced noise map has been added to the Final EIS/EIR.

A-5a-9 As noted in the response to Comment 5a-4, there is only one set of FTA noise impact criteria. This set of criteria is responsive to both cumulative noise – defined by the FTA as existing plus project noise – and the project's contribution to that cumulative noise. Conclusions regarding impact levels are identical whether they are evaluated from the perspective of Figure 3-1 or the perspective of Figure 3-2 of the FTA Transit Noise and Vibration Impact Assessment Guidelines (http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf). EIS/EIR Tables 4.11-4 and 4.11-5 present sufficient information to evaluate the impact levels from either of these two perspectives; they simply use the first of these two perspectives to directly illustrate the basis for determining those levels of impact. Also, Chapter 5 provides an analysis of cumulative impacts, including a discussion of noise during project construction (Section 5.4.11).

A-5a-10 Please see response to comment A-5a-5.

A-5a-11 Please see Master Response #11, for a detailed description of the noise analysis methodology, which assesses existing ambient noise levels and future noise impacts from project operations. Section 4.11.5 of the EIS/EIR presents the results of the analysis which conclude that the proposed project would not worsen ambient noise levels such that mitigation measures are required, and adverse noise and vibration effects would not result. Degradation of interior noise levels requiring acoustical insulation of existing buildings would not result.

A-5a-12 Project impacts were determined to be less than significant as long as pavement discontinuities did not cause unusual increases in operational noise and vibration levels. Accordingly no mitigation is required beyond appropriate pavement surface maintenance. However, this response discusses the practicality and degree of benefit in complying with General Plan Policy 9.1.

In general, the most distinctive characteristic that distinguishes between quieter and louder buses is whether the buses are powered by electricity or internal combustion (e.g., diesel) engines. As indicated in Chapter 2 of the EIS/EIR, there is currently an approximately even split between diesel and electric buses operating along the project corridor, and that split is expected to be maintained under any build alternative, including the LPA. The primary reason for the split fleet is the constraint on availability of Overhead Contact System (OCS) power for some bus routes. The primary bus lines operating within the project corridor are the 47 and the 49. The 47 route extends beyond OCS coverage and relies on internal combustion engine (diesel) powered buses; OCS coverage is complete along the 49 route, which is served by electric powered buses. These constraints on OCS coverage would also apply under all alternatives, including the LPA (with or without the Vallejo Northbound Station Variant). Therefore, it would not be practical to substantially increase the proportion of electric buses serving the corridor under Build conditions. This, in turn, constrains the ability to substantially reduce bus noise emissions under build

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Health

Reviewer's Comment Number	Response
A-5a-1	The commenter is correct. Please see response to comment A-5a-5 below.
A-5a-2	Support for project noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for analysis supporting the staff recommended LPA which proposes to build BRT for some of the same reasons noted in the comment.
A-5a-3	EIS/EIR Section 4.11.3 (Regulatory Setting) focuses on regulation and guidance relevant to quantitative noise impact criteria for assessing project and cumulative noise impacts. The policies referred to by the commenter do not directly relate to the applicable criteria. However, in response to this comment, policies bearing some relationship to the proposed project are referenced in the Draft EIS/EIR Section 4.11.3 (Regulatory Setting).
A-5a-4	Section 4.11.3 (Regulatory Setting) of the EIS/EIR displays Figure 3-1 from the FTA Transit Noise and Vibration Impact Assessment Guidelines (http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf). Per the commenter's request, Figure 3-2 from the FTA Guidelines has been added to this section of the Final EIS/EIR. Note that FTA Guidelines Figures 3-1 and 3-2 are simply two different perspectives on the same set of criteria. Although the curves in Figure 3-1 are defined in terms of the project noise exposure and the existing noise exposure, it is the increase in the cumulative noise – when project is added to existing – that is the basis for the criteria. A brief explanation of these two perspectives has been added to the Final EIS/EIR.
A-5a-5	The commenter is correct that Section 2909, the noise limit from the City's municipal code, does not discuss transportation noise. As explained in Section 4.11.3, because the SFCTA is the lead agency under CEQA noise and vibration impact evaluation considers the available criteria set forth by the City of San Francisco, in addition to criteria set forth by the FTA. Section 4.11.3.2 of the Final EIS/EIR has been revised to explain that Section 2909 states that the City defines the generally accepted threshold for a clearly perceptible sound increase from a stationary source as 5dB, and that the City does not specify a threshold for transportation noise or another applicable, nonstationary source. The revised text explains that the noise threshold set forth in Section 2909 may not be the most appropriate threshold for evaluating a transit project on Van Ness Avenue, but nonetheless this threshold was considered since it is the only available, City threshold. Moreover, Table 7-1 CEQA Significance Criteria in the Final EIS/EIR was revised to state that, "The FTA thresholds were applied to determine impacts because the FTA Transit Noise and Vibration Impact Assessment (FTA, 2006) methodology and thresholds are the established method for evaluating noise and vibration impacts of transit improvements such as the proposed project. No such threshold has been established by the City of San Francisco, and the City's Municipal Code Section 2909 described below is not an appropriate threshold. Nonetheless it is considered as a frame of reference." The EIS/EIR indicates that future traffic noise level (Ldn) values at residential and hotel receivers along Van Ness Avenue would range from 72 to 77 dBA with the project. According to the City's Background Noise Level Map of 2009, the Franklin and Gough Street corridors experience roadside traffic noise level (Ldn) values above 70 dBA. Therefore, in accordance with the SFCTA guidelines, the noise level increase threshold would be 3 dB for this project. The predicted future increase in noise levels along Van Ness

SFDPH
Environmental HEALTH
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San Francisco
Department of Public Health

December 19, 2011

Ms. Rachel Hiatt
Senior Transportation Planner
San Francisco Country Transportation Authority
100 Van Ness Avenue, 26th Floor
San Francisco, CA 94102

Re: Van Ness Avenue BRT draft EIS/EIR pedestrian conditions

Dear Ms Hiatt:

Please accept the following comments on the draft EIS/ EIR of the Van Ness Avenue Bus Rapid Transit Project concerning the assessment pedestrian conditions. These comments focus specifically on fatal and non-fatal injuries to pedestrians.

A-5b-1

While bus rapid transit (BRT) has great potential to equitably improve the quality and reliability of public transportation for all city residents and to reduce the significant public health costs resulting from automobile-based travel, it is important that these projects also consider their effects on fatal and non-fatal pedestrian injuries. Transit routes tend to have higher volumes of pedestrians and therefore greater opportunities for pedestrian-vehicle conflicts and injuries. The Mayor's Citywide Pedestrian Safety Task Force (PSTF) designated Van Ness to be a "high-injury" corridor due to its relatively high linear density of pedestrian injuries and fatalities.

A-5b-2

The Department appreciates the attention given to pedestrian safety in this draft EIS/EIR. The consideration of safety conditions and project effects is much more detailed than that in environmental review documents historically conducted in San Francisco. These comments are intended to support this focus and have several objectives. First, we wish to provide supplementary data and maps on existing pedestrian safety conditions based on a comprehensive corridor analyses conducted by the PSTF in November 2011. This data complements the data in the EIS/EIR. Second, we wish to offer a summary analysis (Table 2) illustrating how the project compares with no-project conditions with regards to effects on recognized determinants of pedestrian injuries. This approach identifies a few data gaps and improvement areas. It may be a useful template for analysis for future BRT projects. Third, we wish to identify improvement measures for consideration in the design phase of the project. We hope these data, analyses and recommendations contribute to a successful project.

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1. Supplementary Data on Existing Safety Conditions

Figure 1, below, illustrates the location of police-recorded pedestrian injuries and police-recorded serious and fatal injuries both for the Van Ness corridor and adjacent streets for 2005-2009. Most intersections between Mission and Union have recorded pedestrian injuries. Serious and fatal injuries appear concentrated at Mission and between O'Farrell and California.

Figure 1. Pedestrian Injuries and Fatalities along the Van Ness corridor (SWITRS 2005 – 2009)

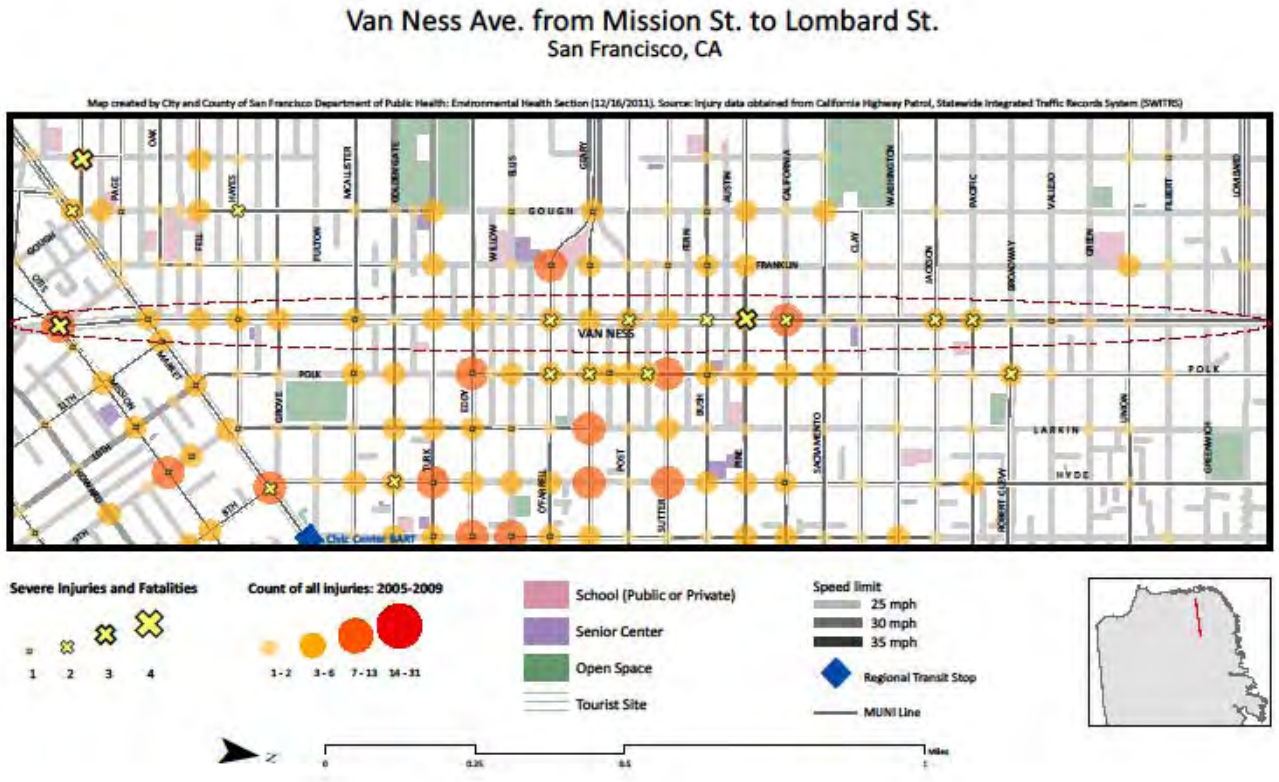


Table 1 provides selected characteristics of pedestrian injuries and collisions along the Van Ness corridor relative to the city (data source: SWITRS 2005 – 2009). Some of the key differences are enumerated below.

- The linear density of injuries and fatal collisions combined is significantly higher along the Van Ness corridor compared to the city as a whole (41.9 per mile vs. 3.5 per mile).
- The proportion of collisions resulting in serious or fatal injuries is double that of the city as a whole (25% vs. 12%). This may reflect the higher share of vehicle-involved collisions proceeding straight or potentially higher vehicle speeds.
- A higher proportion of collisions on the corridor occurred in the late evening to early morning hours relative to citywide data (51% vs. 31%), which may be an effect of both higher speed and poor vehicle and pedestrian visibility.
- Three-quarters of collisions occurred at intersections; however, one-quarter occurred at other (e.g. midblock) locations. The overall proportion of vehicle-involved collisions that were proceeding straight in advance of the collision was greater than the proportion making turns. This suggests that prevention efforts need to consider injury causes other than turn conflicts. The share of vehicle-involved collisions making right-turns is somewhat higher than the comparable citywide figure. The share of vehicle-involved collisions making left turns is similar to the citywide statistic.
- Approximately 40% of collisions are attributed to pedestrian right-of-way violations by drivers, while approximately 30% are attributed to one of several pedestrians violating the vehicle code.

Table 1. Selected Characteristics of Van Ness Corridor Pedestrian Injury Collisions with City Comparison (Data Source: SWITRS 2005 – 2009)

	Van Ness Corridor Conditions	Citywide Comparison
Pedestrian Injuries		
Total injuries (N)	88	3,883
% severe or fatal	25%	12%
Injuries and fatalities per mile	41.9	3.5
Collision location		
Total collisions (N)	85	3,730
Intersection[a]	75%	68%
Mid-block[a]	25%	32%
Collision time of day		
3:00am - 6:00am	4%	2%
6:01am - 9:00am	12%	13%
9:01am - 3:30pm	19%	35%
3:31pm - 6:30pm	15%	21%
6:31pm - 2:59am	51%	31%
Vehicle movement preceding collision[b]		
Proceeding straight	39%	27%
Making right turn	13%	9%
Making left turn	22%	23%
Primary Collision Factor		
Driving Under the Influence of Alcohol or Drugs	4%	1%
Pedestrian Right of Way Violation	37%	40%
Pedestrian Violation	32%	31%
Traffic Signals and Signs	9%	5%
Unsafe Starting or Backing	6%	5%
Unsafe Speed	4%	5%

a Per SFMTA definition, intersection collisions occur <21 feet from an intersection; the remaining are classified as mid-block.

b The remaining collision vehicle movement categories were other, not stated, slowing/stopping, entering traffic, changing lanes.

2. Pedestrian Safety Impact Analysis

Table 2 summarizes existing conditions for a number of factors recognized as determinants of fatal and non-fatal pedestrian injuries and assesses the effects of both the no-build and build alternatives on these factors. This analysis utilizes data from the draft EIS/EIR along with data from the PTSF comprehensive corridor analysis. We identify specific recommendations of the Citywide Pedestrian Safety Task Force Data Subcommittee for this corridor for particular factors. Given our limited time, we did not provide an assessment based on the Pedestrian Environmental Quality Index (PEQI), thought such an analysis would be amenable to this type of project. Overall, this comprehensive analysis illustrates that the build alternatives are equal or superior to no-build for all factors with available information.

Pedestrian Safety Factors	Existing Conditions	*Change*: Existing Conditions to No Build Alternative	*Change*: Existing Conditions to BRT Build Alternatives	Relationship to Pedestrian Safety	Pedestrian Safety Task Force Data Subcommittee Recommendation
Traffic					
Traffic volume	Heavy traffic volumes	-	+ to ++	Lower traffic volumes are associated with lower risk of pedestrian injury. There were some traffic diversions to other streets and transportation modes noted in the DEIR, with non-significant impacts in changes in vehicle volumes on proximate corridors.	
Vehicle speed (85th percentile)	28.3 mph from Golden Gate - Lombard	?	?	Vehicle speed is a principal factor determining both the frequency and lethality of motor vehicle collisions.	
Street Design					
Parking buffer	Exists along most of corridor	/	/	The lateral separation between pedestrians and motor vehicles which supports pedestrian safety and increases pedestrian comfort.	
Parking restrictions near intersections	*Unknown - not assessed*	?	?	Parking restrictions near intersections can increase pedestrian visibility by drivers and improve safety.	Yes
Rumble strips	None	?	?	Rumble strips recommended for piloting as a traffic calming measure on streets with heavy traffic, particularly in areas with fast-moving vehicle approaches (e.g., near freeway on and off ramps).	Yes

Speed Radar Signs	None	?	?	Speed radar signs have proven effective in reducing speeds and increasing compliance with speed limits.	Yes
Traffic lane narrowing	Mixed flow traffic lanes of 10' - 11.5'	/	+	Narrower traffic lanes may slow vehicle traffic and reduces the crossing distance for pedestrians.	Yes
Intersection Safety Conditions					
Accessible Pedestrian Signals	The following five intersections along Van Ness Avenue are equipped with APS on some or all crossing legs: Market, Fell, Hayes, Grove, and McAllister streets.	++	++	Accessible pedestrian signals are a pedestrian pushbutton that communicates when to cross the street in a nonvisual manner, such as audible tones, speech messages, and vibrating surfaces; they are particularly helpful for blind pedestrians and can help all pedestrians know when to cross.	
Crossing distance	Long - 90 feet	/	++	Reduced crossing distances benefit pedestrian safety by reducing exposure to vehicle traffic.	Yes
Crossing time	Largely out of compliance with City and National standards	+	++	Shorter signal crosswalk times can be a movement barrier for pedestrians, and cause hazardous conditions if pedestrians are still crossing when the signals changes.	Yes
Crosswalks at signalized intersections	Present on all four sides at all signalized crossings; ladder crosswalks at four intersections, the rest have traditional parallel line crosswalks.	/	++	Crosswalks - especially those with high visibility - indicate pedestrian right of way on the roadway and alert vehicles to the potential presence of pedestrians.	Yes
Curb bulbs	Existing, typical curb bulbs extend 7 feet into the street and reduce the crossing distance to 86 feet at 17 locations.	/	++	Curb bulbs reduce crossing distances, help slower moving pedestrians finish crossing, increase pedestrian visibility, provide additional space for pedestrians and curb ramps, and calm traffic by visually and physically narrowing the roadway.	Yes
Curb ramps at signalized intersections	One or more missing curb ramps at most intersections.	++	++	Curb ramps increase access and safety for pedestrians with disabilities as well as pedestrians pushing children in strollers.	Yes

Leading Pedestrian Intervals	*Unknown - not assessed*	?	?	Leading pedestrian intervals release pedestrians three to five seconds before any conflicting autos receive the green. They reduce conflicts with turning vehicles by allowing pedestrians to establish their right-of-way, and appear to reduce the incidence of pedestrians yielding to turning vehicles - making it easier for pedestrians to cross the street.	Yes
Left turn pockets	Left turn pockets at 12 northbound and 10 southbound intersections	/	++	Left turning movements present a particular safety hazard to pedestrians; removing opportunities for left turns reduces pedestrian conflicts.	Yes
Lighting, intersection and pedestrian scale	Street and pedestrian scale lighting is currently lacking.	+	+	Lighting increases pedestrian visibility to vehicles and can also impact perceived comfort; lighting is a particularly important issue given the higher proportion of collisions occurring at night along the corridor.	Yes
Medians, including Nose Cones	Medians vary in size, quality, presence; nose cones completely missing at 15 signalized intersections; missing in one direction on 11 signalized intersections.	/	++	Medians provide a refuge for pedestrians who were not able to cross the street in one signal cycle; nose cones provide a physical barrier between pedestrians and traffic.	Yes
Pedestrian countdown signals at signalized intersections	15/29 intersections have pedestrian countdown signals on all crossing legs, 3/29 have them on some legs, 11/29 have no pedestrian signals.	++	++	An SFMTA study found countdown timers, which inform the pedestrian of how much time they have left to cross the street before the light turns red, were associated with an approximately 20% decrease in pedestrian injury collisions at signalized intersections.	Yes
Sidewalk Conditions					
Public seating	Minimal public seating on the corridor	/	/	The presence of public seating can support walking, particularly for seniors and people with disabilities.	

Sidewalk Width	Generally meets city standards though sometimes reduced by street furnishing	/	+	Sidewalk width is a primary factor in determining the level of safety and comfort for pedestrians.
Trees/Planters	Streets trees and landscaped planters	/	/	Trees and planters improve the pedestrian experience, can be a buffer between pedestrians and traffic, and can calm traffic.

Symbol Interpretation

/ No notable change
-- Conditions notably degrade
- Conditions modestly degrade
+ Conditions modestly improve
++ Conditions notable improve
? Information on future conditions not available/unknown

3. Additional Improvement Measures

A-5b-5

As documented in the draft EIS/EIR and also summarized in Table 2 above, the project encompasses several physical or operational changes that would likely reduce the probability of fatal and non-fatal pedestrian injuries. These changes include:

- Overall reductions in private vehicle volumes along the corridor
- Reductions in the frequencies of right turn movements at some locations
- Reductions in allowed left-turn movements at some locations
- Dedicated left-turn signal phases
- Reductions in crossing length and improved intersection amenities
- New streetscape features buffering pedestrians from vehicle traffic

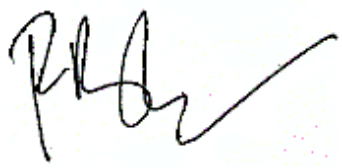
A-5b-6

Given the high existing frequency of fatal and non-fatal pedestrian injuries along the entire corridor, the EIS/EIR or further project design might consider several additional improvement measures for safety. These additional measures could be prioritized to high pedestrian volume and high pedestrian injury locations, and in proximity to schools and facilities serving the elderly or disabled. The following strategies were identified as potentially beneficial for pedestrian safety along the Van Ness Corridor by the PSTF Data Subcommittee:

- Leading pedestrian intervals
- Arterial traffic calming strategies, including:
    - Rumble strips at high pedestrian volume locations and preceding BRT boarding islands
    - Speed radar signs
- Parking restrictions near intersections
- Additional pedestrian scale lighting including at intersections

Thank you for your consideration of these comments. Please do not hesitate to contact me or Megan Wier (megan.wier@sfdph.org) of my staff if you have any questions.

Sincerely,



Rajiv Bhatia, MD, MPH
Director, Occupational and Environmental Health

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Health

Reviewer's Comment Number	Response
A-5b-1	Chapter 3.4 of the Draft EIS/EIR (Non-Motorized Transportation) describes the performance and impacts of each of the alternatives, including the LPA, on pedestrian safety, including fatal and non-fatal pedestrian injuries. Table 3.4.6 shows the number and locations of pedestrian collisions, including the subset of collisions with serious injury along Van Ness Avenue. See Master Response #13 for details on some features of pedestrian safety as part of the BRT project.
A-5b-2	Thank you for the supplemental data. The Draft EIS/EIR used Caltrans TASAS data as the basis for documenting existing conditions. The maps and table submitted by the commenter provide additional context for the corridor, and are consistent with findings in the Draft EIS/EIR. The pedestrian crowding and access analyses and thresholds are consistent with City standards for pedestrian impacts. The project team looks forward to working with SFDPH on future environmental analyses for BRT projects to continue to refine our evaluation of pedestrian safety. .
A-5b-3	Please see response above for Comment A-5b-2
A-5b-4	Please see response above for Comment A-5b-2
A-5b-5	Thank you for your summary of project features that improve pedestrian safety.
A-5b-6	These design features will be considered as part of advanced design of the project, if approved. Pedestrian lighting is already a feature of the build alternatives, including the LPA.

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

INTEROFFICE MEMORANDUM

To: Michael Schwartz
San Francisco County Transportation Authority

From: Irina P. Torrey, AICP, Bureau Manager
Bureau of Environmental Management

Date: December 20, 2011

Subject: Van Ness Avenue Bus Rapid Transit Project Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR)

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement/ Environmental Impact Report for the Van Ness Avenue Bus Rapid Transit Project. The San Francisco Public Utilities Commission (SFPUC) offers the following comments:

General Comments:

Recycled Water Systems - The property is not located within the designated recycled water use area as defined in the Reclaimed Water Ordinances 390-91, 391-91 and 393-94. Therefore, installation of a recycled water system(s) for recycled water use is not required. **A-6-1**

Non-potable Water Use for Soil Compaction and Dust Control - Non-potable water must be used for soil compaction and dust control activities during project construction as required by CCSF Ordinance 175-91. The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for these activities at no charge. For more information please contact (415) 695-7358. **A-6-2**

Comments on the Utilities Section:

San Francisco's new Water Efficient Irrigation Ordinance went into effect January 1, 2011. Projects with new or modified landscape area of 1,000 square feet or greater will require the approval from the SFPUC prior to construction and must meet requirements of the Water Efficient Irrigation Ordinance. The ordinance, adopted as Chapter 63 of Administrative Code, applies to public agency, commercial and residential landscaping projects. **A-6-3**

The SFPUC strongly recommends that the sewer utilities be relocated outside of the San Francisco Municipal Transportation Agency's (SFMTA) proposed right-of-way **A-6-4** *continued*

Agencies Pg. 28

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

INTEROFFICE MEMORANDUM

(ROW). SFPUC Wastewater Enterprise (WWE) requires access for maintenance, overhead power lines within five lateral feet of any part of a sewer main would impact access and our ability to maintain WWE utilities. Any structures/features located over sewers would prevent the proper operation and maintenance of the SFPUC's sewer facilities, create extra cost for removal and or reconstruction of surface facilities, and may result in the shutdown of SFMTA services. Surface structures/features may be removed if needed and the SFPUC WWE would not pay for any charges associated with the replacement of these structures/features or disruption of service (i.e. de-energizing wires, bus disruption or rerouting, SFMTA personnel time). Additionally, potential inference with appropriate operation and maintenance of the sewer facilities could result in violation of the SFPUC's National Pollutant Discharge Elimination System (NPDES) permits for wastewater discharge.

A-6-4 *continued*

Moreover, any existing sewer laterals located within the platform or bulb out area would need to be replaced and the vents would need to be relocated to the face of the new curb. The SFMTA would be responsible for restoration of street infrastructure when there is a need for future repair/replacement under the proposed platform. The SFPUC's responsibility for future repair and replacement of sewer laterals will only be from the sewer main to the face of the new sidewalk curb. Proposed City legislation dealing with sidewalk widths will address this change in responsibility (from existing curb face to new curb face).

A-6-5

Drainage should be constructed as necessary within SFMTA ROW. Due to the proposed changes in the curb alignments, relocation of existing drainage facilities would be necessary. Construction of SFMTA ROW curb may also require construction of additional drainage facilities to capture overland flow depending on changes to the roadway crown and grades. Hydraulic analysis will be required to determine the effects of changes of the street cross section and layout on the conveyance of stormwater flow in the street. Drainage facilities located within the SFMTA ROW should be maintained by the SFMTA and should be connected to sand trap manholes located outside of the SFMTA ROW before connecting to the main sewer facilities.

A-6-6

Please note that additional coordination and discussion with the SFPUC is needed at this time. Please coordinate with the WWE for review and approval of all construction submittals, requests for information, and instructional bulletins. Additionally, SFMTA should conduct a thorough pre- and post- project condition assessment on all WWE assets within and close to the project area using SFPUC specified procedures. This effort should be coordinated with the WWE. For continued coordination with the WWE please contact Betsey Eagon at (415) 554-1871 or beagon@sfwater.org.

A-6-7

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

INTEROFFICE MEMORANDUM

Thank you for your attention to these comments.

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Public Utilities Commission

Reviewer's Comment Number	Response
A-6-1	Thank you for the comment indicating the project is not within a recycled water use area.
A-6-2	The project will comply with all City standards during construction, including use of non potable water for soil compaction.
A-6-3	The project will comply with all applicable City standards.
A-6-4	The Draft EIS/EIR assumes utility replacement in station locations where the SFMTA ROW would be directly above the sewer. Further consideration of utility placement will be undertaken as part of detailed design. Under the LPA (with or without the Vallejo Northbound Station Variant), replacement of the sewer pipeline is assumed at station locations and in areas where the transitway would cause direct load (weight) on the sewer. Since the project has not completed its load (weight) analysis, there currently is not an estimate for the lengthening of the timeframe due to replacement of sewer pipeline under the LPA, but the timeframe will fall between the full replacement of Build Alternative 3 (4 to 12 months) and the partial replacement of Build Alternative 4 (2 to 4 months). A more refined understanding of the sewer replacement work and its timeline will be part of 30% design.
A-6-5	Build alternatives 3 and 4, including the staff recommended LPA (with or without the Vallejo Northbound Station Variant), do not require moving the curb line except at corner bulb locations, thus minimizing the need to replace lateral sewer lines. Laterals will be identified for replacement as necessary during detailed design. Build Alternative 2 would require the replacement of sewer laterals at all BRT station locations because they would functionally extend the curb line.
A-6-6	Drainage considerations will be incorporated into the design process if the project is approved, per applicable requirements.
A-6-7	The project team has coordinated with the SFPUC WWE and will continue to do so as part of detailed design.

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
1	ELA	10/18/2006	As a follow-up to our discussion on September 29 regarding the Van Ness BRT, I have attached my evaluation of the current BRT alternatives that I prepared as a member of the Van Ness BRT Technical Advisory Committee. Overall, the side-loading alternative ranked highest with respect to the evaluation criteria. Based on my informal conversations with DPW Disability Access Coordinator Kevin Jensen and Paul Sacamano with Bureau of Urban Forestry, they prefer the side-loading alternative as well.	A-7a-1
2	BUF	11/8/2006	I would like to also clarify that BUF strongly prefers the side boarding alternative to the center lane boarding. With center lane boarding all the trees, including the Arbor Day 2006 memorial tree to Rosa Parks sponsored by the NAACP, would have to be removed and any replacements trees would have to be very small and would not compensate for the loss.	A-7a-2
3	DPW	10/16/2007	See letter from DPW Director to Tilly Chang on Oct 16, 2007 [attachment 2]	A-7a-3
4	DPW - Ops	8/26/2008	Thank you for your email. I have had an opportunity to look at all three plans, and the one that concerns me the most is having any kind of bus platform in the center of the roadway. Van Ness Ave. is a very different street than Market St., and if Market St. is the model we're looking at, I'm definitely very concerned as we are already looking at strategies to retroactively green the medians on Market St. The original planners and visionaries of our City, who planned our streets, definitely had a great idea and as one that has been involved in urban greening for quite some time now, I feel very strongly about removing such a great green connector in a beautiful city like San Francisco. Our position at Operations remains the same, we strongly support having BRT or any form of transportation pick-up along the sidewalk sides of the street by either dedicating bulb-outs or bus only lanes. From my working with the many residents and businesses along Van Ness over the years, myself, Carla, Liz, and all of us that understand the current scope strongly oppose removal of the medians with the center-loading option. I also believe that there are other feasible routes that may not have been studied yet, such as the Franklin St. or Larkin St. options where such	A-7a-4
5	DPW	8/29/2008	See DPW-BUF comments from BUF to Kris Opbroek on Aug 29, 2008 [attachment 3]	A-7a-5

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
6	BBR	9/2/2008	Center loading involves the public crossing the busy Van Ness Ave (3 lanes) to gain access to a public transportation function. This has been done on Judah, Ocean and Market Sts (just 1 lane to cross). We have pedestrians accidents on these streets already even though it is only a one lane crossing. On Judah & Ocean it required the building of many raised platforms that in themselves cause vehicle accidents. These streets are of a much different nature than Van Ness. For one thing these streets didn't have medians with extensive greenery and very mature trees (some of which are historical) that Van Ness has. Another is that only one lane needs to be crossed to get to these raised platforms or islands on these streets whereas three lanes will need to be crossed on Van Ness. I very often (more often than not) see pedestrians crossing over to the islands not using the corners or crosswalks where the stop signs or lights are located. On Market St the attenuators are being redesigned to accept planter boxes to improve the greening. Why remove the greening that has been on Van Ness for decades just to install rail lines. Isn't it the Mayor's priority to green the city?	A-7a-6
7	BSM	9/2/2008	There are 3 alternatives, DPT will need to review the width of the bus lanes.	A-7a-7
8	BSM	9/2/2008	For alternative 2; this is the plan we had discuss with Kris earlier with the extension thru the entire Van Ness corridor.	A-7a-8
9	BSM	9/2/2008	For alternative 3, the proposed exclusive bus lanes are in the median. From a Program viewpoint, there are proposed "median island landscaping" in the 6' median islands between the transit lane and the traveled lane on both sides of Van Ness Avenue. I don't know how these two 6' landscaping strips will be maintained. Further, there are existing traffic signals and controllers in the median. I don't think there was consideration on where these facilities need to be relocated to.	A-7a-9
10	BSM	9/2/2008	Second, there are transitions at two locations. At the Van Ness/Greenwich intersection, the northbound bus/transit lane will cross/transition across the 3 left turn lanes and continue along Van Ness Avenue thru Lombard. There is a concern on this movement related to potential collisions.	A-7a-10

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
11	BSM	9/2/2008	The second location is at the intersection of South Van Ness/Mission. The southbound bus/transit lane will make either a right hand or left hand turn. In both cases, I'll have to assume that there will be a separate signal for this movement, else there will be conflicts. For buses heading westbound Mission making a right hand turn onto South Van Ness will require evaluation on the proposed platform to ensure that the turning radius is satisfied. Finally, buses on Van Ness Avenue are overhead lines, the existing OH lines will need to be rest to extend into the center of Van Ness Avenue.	A-7a-11
12	BSM	9/2/2008	For alternative 4, the proposal is to establish bus/transit lanes on the side of the median island. With platforms/bus stops in the median with landscaping. While this provides the maximum landscaping, the exit from MUNI vehicles is on the left hand side and not the right. The proposed platforms are on the right hand side. This design will need to be evaluated to determine the feasibility of provided exit for buses on the right side instead of the left.	A-7a-12
13	DPW	9/4/2008	See DPW-BSES comments from Chris Ellen Montgomery to Kris Opbroek on Sep 4, 2008 [attachment 4]	A-7a-13
14	DPW	9/5/2008	See DPW comments from Kris Opbroek to Rachel Hiatt on Sep 5, 2008 [attachment 5]	A-7a-14
15	BUF	4/8/2011	See James DeVinny's memo to Charle Yu on Apr 8, 2011 [attachment 6]	A-7a-15
16	ESH	4/11/2011	Add reference to OSHA regulatory requirements for work under energized overhead lines. In the construction approach/transit discussions, the Admin EIR/S did not discuss whether existing OCS would remain active or if substitute diesel buses would be used. The construction cost & schedule could vary significantly depending on how the transit is handled during construction.	A-7a-16
17	ESH	4/11/2011	Include freeway on-ramp (S Van Ness & 13th St) and off-ramp (Mission & Duboce) in the traffic study. For example, at the Mission & S Van Ness intersection, the existing traffic configuration has 3 left turn lanes from Mission to 3 northbound lanes on S Van Ness. If one of the lanes on S Van Ness is converted into a BRT only lane, traffic could be backed up on Mission and affect the Mission/Duboce off-ramp.	A-7a-17

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
18	EHY	4/14/2011	Impacts to existing sewers in term of operation maintenance as well as future replacement has not been taken into consideration. It is recommended that sewer facilities are relocated outside of the MTA ROW. If sewer lines to remain underneath proposed work (platforms, landscaping, bus lines), there would be extra cost for removal/reconstruction of surface facilities as well as shut down of MTA services during maintenance and replacement/repair of sewer facilities in future. PUC shall not be responsible for these extra costs. Sewer lines underneath proposed poles and trees shall be relocated.	A-7a-18
19	EHY	4/14/2011	Due to change in curb alignments, relocation of existing drainage facilities will be necessary. In addition, construction of MTA ROW curb may also require construction of additional drainage facilities to capture overland flow depending on roadway crown and grades.	A-7a-19
20	EHY	4/14/2011	MTA ROW Drainage: Drainage shall be constructed as necessary for MTA ROW. These drainage facilities located within the MTA ROW shall be maintained by MTA and shall be connected to sand trap manhole located outside of the MTA ROW before connecting to the main sewer facilities.	A-7a-20
21	EHY	4/14/2011	Street surface drainage shall be taken into consideration since there will be changes to street cross section.	A-7a-21
22	EHY	4/14/2011	Any existing sewer laterals located within the platform or bulb out area shall be replaced and vents shall be relocated to the face of new curb. MTA shall be responsible for restoration of street infrastructure when there is a need for future repair/replacement under the proposed platform. PUC's responsibility for future repair and replacement of lateral will be up to face of new sidewalk curb. Sidewalk width change legislation shall address this change in responsibility (from ex. curb face to new curb face).	A-7a-22
23	EHY	4/14/2011	PUC is recommended to enter into discussions with MTA regarding these concerns/issues. BOE-Hydraulic will provide necessary technical help to PUC.	A-7a-23

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
24	EHY	4/14/2011	Poles/New trees, if any in sidewalk area shall be installed minimum of 5' away from the sewer laterals (5' from edge of sewer pipe to edge of pole foundation/tree pit). Type of trees proposed shall be reviewed and approved to meet guidelines for vegetation in proximity of sewer facilities.	A-7a-24
25	EHY	4/14/2011	Pre and post construction inspection of sewer facilities is suggested to determine damage, if any, due to contractors operations to existing sewer facilities that will remain in close proximity of the proposed MTA facilities.	A-7a-25
26	EHY	4/14/2011	See Comments on BRT Project - Apr 2011 (EHY).xlsx [attachment 7]	A-7a-26
27	DPW	4/23/2011	See LPA Selection Framework (DPW-combined comments) 04-23-10.xlsx [attachment 8]	A-7a-27
28	BUF	11/10/2011	BUF strongly prefer the side loading option.	A-7a-28
29	BUF	11/10/2011	Both of the center loading options would have significant impacts to the trees and landscaping in the medians.	A-7a-29
30	BUF	11/10/2011	Although one center loading option preserves some median trees, the amount of pruning required to achieve and then maintain the clearances for the bus lines is simply unrealistic for our crews.	A-7a-30
31	BUF	11/10/2011	In addition, maintaining the proposed new landscape for the other option would be extremely costly (and we provided cost estimates to the SFCTA) because we would have to work at off hours, paying overtime, and closing lanes of traffic for safety.	A-7a-31
32	BUF	11/10/2011	The center loading options also greatly reduce the overall amount of green space on the roadway.	A-7a-32
33	BUF	11/10/2011	The side loading option preserves the existing medians, and actually provides for some potential additional planting opportunities at bulb outs.	A-7a-33
34	BUF	11/10/2011	From BUF's perspective, the only option that we support is the side-loading option.	A-7a-34
35	BUF	11/10/2011	BUF expressed concern that the EIR did not adequately address the impacts of the proposed tree removals.	A-7a-35

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment
36	DAC	12/5/2011	Pedestrian islands at crosswalks should never be less than 5 feet in width, measured from curb to curb. This will accommodate the minimum clear wheelchair user space of 4 feet in length, plus 6 inches of tolerance at front & back to moving traffic and transit way lanes. This is especially important on the proposed designs since the traffic lanes are rather narrow and not all wheelchair and scooter users fit into a 4 feet long space. It is much better to provide pedestrian refuge island of at least 6 feet in clear width, as that enables the use of detectible warnings at each end of the island. This is a vast improvement in accessibility of crossing such a busy street as Van Ness Ave. for those who have low vision or who are blind.
37	DAC	12/5/2011	The Complete Streets concept would require that the existing sidewalks be included in the proposed scope of work, not excluded. The Third Street Light Rail Project had many problems during construction because the existing sidewalk conditions were not addressed. The entire cross-section of the public right of way must be evaluated – from ground floor entrance threshold elevations on each side at the back of sidewalk. The gutter and curb elevations may need to be raised or lowered in order to achieve accessible sidewalks and accessible building entrances. This may affect the final street grades accordingly. Let's learn from the lessons of the Third Street Light Rail Project. Existing non-accessible conditions must not be perpetuated by the scoping and design of the various BRT schemes.
38	DAC	12/5/2011	The increased difficulty for persons who have low vision or who are blind to navigate the schemes with center running BRT lanes must be addressed (both shared centered boarding islands and narrow single direction boarding islands). Those schemes must investigate and propose mitigating measures that will be taken in order to provide clearly perceptible wayfinding information to that community of users.

A-7a-36

A-7a-37

A-7a-38

Van Ness BRT DEIR/EIS review
DPW Comments - Attachment 1

No.	By	Date	Comment	
39	DAC	12/5/2011	Conversely, the relative ease of wayfinding for persons who have low vision or who are blind in the scheme with both BRT and Bus Boarding areas on and adjacent to the sidewalks must be stated. This makes transferring between public and private transportation systems much more direct and easier to navigate than the alternatives for persons who have low vision or who are blind in particular.	A-7a-39
40	DAC	12/5/2011	The increased difficulty in using the narrow single direction boarding islands for persons who use wheelchairs and scooters must be addressed. The difficulty arises from platform congestion and a platform width barely wide enough than the minimum 5 feet required to turn a wheelchair or scooter around and to enter and exit even the proposed low floor BRT vehicles.	A-7a-40
41	DAC	12/5/2011	The effect on persons who are disabled of the proposed reduction in the number of transit boarding stops must be addressed. The topography (street and sidewalk grades) between stops and in making transfers between transit stops must be evaluated and the impacts on persons with disabilities addressed.	A-7a-41
42	DAC	12/5/2011	On-street accessible parking and passenger loading zones will be potentially moved and / or reduced in number and may already be inadequate. Study the need, and provide such areas distributed along the length of all schemes. The locations of on-street accessible parking and passenger loading zones must be located in areas with the least amount of running grade and cross-slope possible.	A-7a-42
43	DAC	12/5/2011	Pedestrian phase timing of signalized intersections must be based on a walking speed that is appropriate for persons with disabilities. The recommend rate is 2.8 feet per second, which the SFMTA has in the past stated is its typical number. Providing accessible pedestrian islands will enable the wide street to be crossed in multiple phases, which will be a great benefit to slow walkers. Clearly state for the record what the design pedestrian speed will be. Again, we should learn from the criticisms of the Third Street Light Rail Project.	A-7a-43

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7a-1	This comment is out of date, as it refers to evaluation from the Van Ness Avenue BRT Feasibility Study approved in 2007. A more recent evaluation (Chapter 10) was written as part of the EIS/EIR.
A-7a-2	This comment refers to alternatives evaluation performed as part of the Feasibility Study and is out of date. See Master Response #7 regarding tree removal and planting opportunities. As explained in Master Response #7, a comprehensive Tree Removal Evaluation and Planting Opportunity Analysis was undertaken in fall 2012 to identify the maturity and health of trees in the corridor and therefore better understand the impacts of tree removal and the opportunities for preserving trees, and the parameters of new tree plantings (BMS, 2013). The analysis took into consideration recent design requirements which affect tree removal and planting opportunities. The EIS/EIR provides detailed information about tree removals for all alternatives, including the LPA, in the Aesthetics/Visual Resources Section 4.4.3.4. The EIS/EIR also identifies the estimated planting opportunities to replace removed trees or to plant new trees in the median or sidewalk, as shown in Table 4.4.4. For all alternatives, more median and sidewalk trees will result after replanting than currently exist. Mature tree canopies provide water quality, aesthetic and carbon off-set benefits. There would be a period of reduced benefits until the new tree plantings grow to maturity, and these benefits would not be fully compensated in the event different tree types are selected that do not offer the same size canopy as existing trees that would be removed. However, under each build alternative, including the LPA, the reduced benefits due to smaller tree canopy size would be offset by an overall increase in trees in the corridor. The LPA (with or without the Vallejo Northbound Station Variant) would require removal of 90 median trees, 23 of which are mature trees in good or excellent condition (health). New tree plantings would increase the number of trees in the median and along Van Ness Avenue as a whole while also increasing the permeable area. The Rosa Parks tree does not qualify as a landmark or significant tree per the City's ordinance, nonetheless it may warrant special consideration in planning and the SFCTA has discussed the possibilities for relocating it with the Bureau of Urban Forestry. Decisions about tree plantings and relocation of existing trees will be decided as part of the design phase, if the project is approved.
A-7a-3	See comments A-7b-1 through A-7b-4 as part of response to letter A-7b from DPW Director to Tilly Chang on Oct 16, 2007.
A-7a-4	See Master Response #7 for details on tree removal and planting opportunities. The EIS/EIR assesses the effects of tree removals in Sections 4.4 (Aesthetic and Visual Resources) and 4.13 (Biological Environment) as well as in the Alternatives Analysis, Chapter 10. The urban design and landscaping benefits of the median on Van Ness Avenue is a factor considered in the LPA selection process, as described in Section 10.2.4.4. Also, the ease of maintaining a median is a factor considered in the LPA selection process, described in Section 10.2.4.7. Preservation of existing trees, tree planting opportunities and maintenance factors were taken into account in selecting the

recommended LPA. The project team will coordinate with DPW to preserve as many existing trees as possible in the design of the system. The LPA will provide planting and greening opportunities along the median for almost all blocks along the corridor.

Section 1.2.1 Countywide Planning Context provides a historical context for the proposed project, and describes how Van Ness Avenue has been identified as a high-priority transit improvement corridor and has been targeted for rapid transit in planning studies dating back to 1995.

See Master Response #2, Chapter 2 of the Draft EIS/EIR, and the Alternatives Screening document for information on alternatives development and screening. Van Ness Avenue has been identified in numerous adopted plans as being a major north-south transit route in the Muni Rapid Network, and BRT was identified as the recommended solution in the Feasibility Study for achieving the speed and reliability improvements for the corridor to serve in that function. Parallel streets such as Franklin and Larkin are of a different character than Van Ness Avenue, are less suited to transit in many areas, and have not been identified for rapid transit improvements. Those streets have much higher grades than Van Ness Avenue, particularly in the northern portion of the corridor. Larkin Street is stop controlled for numerous intersections, which is not conducive to rapid transit. Finally, the fact that these streets are one-way for the majority of the corridor means that service would need to be separated onto different streets, which is undesirable.

A-7a-5 See responses to comments A-7c-1 through A-7c-43 for letter A-7c from BUF to Kris Opbroek on Aug 29, 2008

A-7a-6 The precedent for center-running transit exists in other parts of the City such as the T-Third line, showing that it can be implemented successfully. Designs for Van Ness Avenue BRT will discourage pedestrians from crossing outside of the crosswalk. For the recommended LPA, this will include guardrails along the length of the platform except at crosswalks, where the station entrances will be. Note that rail is not part of the project definition for any of the alternatives. Please see Master Response #13 for a summary of how crossing pedestrian conditions on Van Ness Avenue would improve. Please also see Master Response #7 and response to comment A-7a-2 for information on how greening would be maintained under all of the build alternatives, including the LPA.

A-7a-7 The Project team reviewed the width of the BRT lanes with the SFMTA as part of the analysis for the Draft EIS/EIR. For the LPA, the BRT lanes would be 11.5-12 feet in width.

A-7a-8 Comment noted.

A-7a-9 Since this comment was submitted in September 2008 multiple technical advisory committee meetings have taken place, including with staff from DPW BUF, to ensure that the plantings shown in the visualizations are feasible and maintainable. For Build Alternative 3, the project does not propose trees in the 4' median due to maintenance considerations, but rather would only have trees in the nine foot median.

Replacement of all existing traffic signals will be a component of the project in coordination with SFgo under any of the alternatives.

A-7a-10 The transitions to and from the exclusive BRT lanes will be governed through exclusive bus signal phases which will provide the vehicles with a queue jump ahead of traffic, controlled through transit signal priority. These phases are represented in the transportation operations models, and will be further refined during advanced design. Engineering designs for the project have ensured that all movements as part of the project can be made safely.

A-7a-11 See Response to Comment A-7a-10.

Overhead Contact System (OCS) replacement would be included under any of the build alternatives,

including the LPA, as part of the project definition (See Chapter 2 of the EIS/EIR).

A-7a-12 The definition and designs of the alternatives used in the EIS/EIR were refined since the submission of this comment, and are described in Chapter 2 of the Draft EIS/EIR.

A-7a-13 See responses to comment A-7d-1 regarding letter A-7d from Chris Ellen Montgomery to Kris Opbroek on Sept 4, 2008.

A-7a-14 See responses to comments A-7e-1 through A-7e-66 regarding letter A-7e from Kris Opbroek to Rachel Hiatt on Sep 5, 2008.

A-7a-15 See responses to comments A-7f-1 through A-7f-7 in attachment 6.

A-7a-16 The Project Construction Plan assumes that the OCS would be active throughout construction in all areas feasible. There may be some temporary bus substitutions at times when construction would not allow for the OCS; however, no increase in buses is anticipated beyond how this is handled in maintenance operations today. Further refinement of SFMTA operations will occur during the design phase. All OSHA regulatory requirements will be followed throughout construction.

A-7a-17 Section 3.3 (Figure 3.3-1) shows the Synchro traffic study area of 139 intersections, including the Mission/Otis/ South Van Ness Avenue intersection and the Mission/Otis/Duboce offramp from Hwy 101. The Synchro traffic models include changes to intersection lane configuration to reflect BRT service and outputs from the models reflect the resulting changes to traffic operations based on those changes. See the Vehicular Traffic Analysis Technical Memorandum for more details on the assumptions and outputs as part of the traffic modeling. The 95th percentile queue length from Synchro indicates that congested traffic would not exceed the block length from Mission/South Van Ness Avenue to Mission/Otis/Duboce for all 2015 and 2035 BRT scenarios except for 2035 Build Alternatives 3 and 4, and thus would not affect freeway operations. Under 2035 Build Alternatives 3 and 4, this blocking is likely to occur less than 5% of the time. On average the queue would be shorter and would not extend this far.

The Mission Duboce off-ramp was modeled as part of the Mission/Otis/Duboce intersection for all scenarios. Due to Synchro's limitations, the off-ramps and westbound 13th street traffic was analyzed together as westbound traffic with one shared through and left lane, two through lanes and one exclusive right turn lane. This configuration was effective in identifying intersection impacts as well as the maximum queue length on the ramp, because the westbound right-turn is the critical movement and this is modeled as a separate lane. The analysis shows that the off-ramp 95th percentile queue would not spill over to the freeway in 2015. However, in 2035 it may extend to the freeway with the BRT in place. But the length of the queue would be less than the queue length under 2035 No Build due to reduced right turns accessing NB Van Ness Avenue under the Build Scenario. The South Van Ness/13th Street on-ramp for US 101 is not included in the study area because ramp and lane capacity would not be reduced under any of the scenarios and traffic diversions would not increase volumes using South Van Ness Avenue to access the on-ramp.

A-7a-18 The EIS/EIR assumes mainline sewer replacement wherever the BRT transitway or station platforms would conflict with regular sewer maintenance (i.e., full replacement under Build Alternative 3, replacement at station locations under Build Alternative 4, and replacement at station locations and in areas where the transitway would cause direct load (weight) on the sewer for the LPA). This is reflected in the cost estimates in Chapter 9 of the Draft EIS/EIR as well as Chapter 4.15 (Construction).

Coordination with DPW and SFPUC, along with further analysis on the best solution for sewer replacement, including whether or not to relocate the sewer, will be conducted as part of advanced design. Negotiations related to capital and operations/maintenance cost sharing will be undertaken during the design phase, if the project is approved.

A-7a-19 Roadway crown and grades will be unchanged under all project alternatives, including the LPA (with or without the Vallejo Northbound Station Variant). Curb modifications may necessitate relocation of existing curb inlets to maintain drainage functionality, as discussed in Section 4.9.3.1 Hydrologic Impacts. New inlets would be required to drain the transitway only under Alternative 3.

A-7a-20 Operational practices for maintaining utilities on Van Ness Avenue will comply with all City standards. Cost sharing agreements will be further refined during the design phase, if the project is approved.

A-7a-21 Section 4.9.3.1 of the EIS/EIR, Hydrologic Impacts, explains that under each of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), stormwater would continue to flow towards the curbside storm drains, and under Build Alternative 3 additional curb inlets at the median islands would capture surface runoff from the transitway. In addition, existing curb inlets at intersection locations would be relocated or otherwise modified to accommodate curb changes resulting from curb bulbs, or other sidewalk modifications. As currently designed, each of the proposed build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in greater permeable surface area compared with existing conditions and the No Build Alternative. Section 4.9.3.1 describes additional design features listed in the San Francisco Better Streets Plan that will be considered during project final design to provide additional pervious surface area and landscaping in the corridor, and improve both drainage and water quality. Section 10.2.4.4 Urban Design/Landscape describes how changes in the amount of permeable or landscaped surface area for the build alternatives, at the present level of design, is considered in the alternatives analysis and LPA selection process. Build Alternatives 2 and 4 (with or without Design Option B) would nearly double the amount of permeable surface area over existing conditions and the No Build Alternative, whereas Build Alternative 3 (with or without Design Option B) would increase the permeable surface area along Van Ness Avenue by 0.1 acre. The LPA (with or without the Vallejo Northbound Station Variant) would increase the amount of permeable surface by approximately 0.2 acre.

A-7a-22 The LPA requires minimal replacement of the existing sidewalk curb. At bulb locations, sewer laterals may be replaced as necessary. Sidewalk width change legislation will address responsibility between private abutting owners and City for sewer lateral maintenance from new curbline. Build Alternative 2 would require the replacement of sewer laterals at all BRT station locations because they would functionally extend the curb line. Cost sharing between City departments for street infrastructure work will be further defined during design phase.

A-7a-23 The project team has started meeting with SFPUC on a regular basis and would continue to do so as part of the design phase, if the project is approved.

A-7a-24 Replacement trees will comply with all City and County of San Francisco and Caltrans standards or receive justified design exceptions, including offset from sewer laterals. Chapter 2 identifies that the project will obtain DPW approval to remove and replace trees.

A-7a-25 An initial sewer survey was completed in May, 2012. Additional surveys will be performed pre and post construction, as agreed upon by the SFMTA, SFPUC, and DPW during the design phase, if the project is approved.

A-7a-26 Please see responses to comments A-7g-1 through A-7g-3 (Attachment 7).

A-7a-27 Please see responses to comments A-7h-1 through A-7h-26 (Attachment 8).

A-7a-28 Support for Build Alternative 2 noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA.

A-7a-29 See Master Response #7 for details on tree removal and planting opportunities. The EIS/EIR assesses the effects of tree removals in Sections 4.4 (Aesthetic and Visual Resources) and 4.13 (Biological Environment) as well as in the Alternatives Analysis, Chapter 10.

All of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in a substantial net gain of trees in the corridor when new planting opportunities are considered. The impact from the removal of existing trees and shrubs would be alleviated under each build alternative, including the LPA, with replacement planting. Increased sidewalk and median tree plantings over existing conditions would result in long-term, beneficial effects to biological resources, with improvements growing over time as plantings mature. At the same time, however, there would be a plant establishment period lasting for several years for new trees to reach maturity. This would be a period of reduced benefits compared with the benefits offered by mature trees and their canopies. The trade-offs between increased plantings in the corridor and the loss of existing trees is discussed for each build alternative, including the LPA, in Section 4.4.3.4 of this document. The project was determined to have less than significant impacts with incorporation of mitigation measures regarding tree loss.

To clarify, Build Alternative 2 would involve the removal of median trees in some locations where the left turn pockets are removed, resulting in significant altering of the median (20 trees).

A-7a-30 The EIS/EIR provides detailed information about tree removals for all alternatives, including the LPA, in the Aesthetics/Visual Resources Section 4.4.3.4. Section 4.4.3.4 summarizes the results of a comprehensive Tree Removal Evaluation and Planting Opportunity Analysis was undertaken in fall 2012 to identify the maturity and health of trees in the corridor and therefore better understand the impacts of tree removal and the opportunities for preserving trees, and the parameters of new tree plantings (BMS, 2013). The analysis took into consideration the OCS clearance requirements of 5 feet between the OCS wires and a tree, and 5 feet between the top of the OCS wires and a tree canopy. These OCS setbacks require the bottom of a tree canopy to be a minimum of 23 feet from the ground, or a tree of any height to have a canopy narrower than 11 feet. The analysis assumed a 15-foot separation between existing trees to be preserved and new tree plantings. The Final EIS/EIR shows the number of trees that would need to be removed as part of implementation of the LPA. DPW Bureau of Urban Forestry has concurred that pruning is realistic for the trees shown as removed, preserved, and newly planted as part of all build alternatives, including the LPA. The analysis assumes sufficient resources for proper maintenance.

A-7a-31 The costs of maintenance provided by DPW for each of the alternatives are included in the operational costs described in Chapter 9 of the Draft EIS/EIR. The LPA maintenance costs would be similar to those of Build Alternative 3B; although not the major component of transitway maintenance costs, tree pruning costs would be similar to Build Alternative 3B. For the LPA, annualized operations and incremental maintenance would cost $6 million, less than the No Build Alternative.

A-7a-32 The amount of permeable surface is quantified and described for each of the alternatives, including the LPA, in Section 4.9 of the Draft EIS/EIR. All of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would increase the amount of permeable surface along the corridor. The staff recommended LPA (with or without the Vallejo Northbound Station Variant) would increase the amount of permeable surface by approximately 0.2 acre, as compared to a 0.5 acres increase for build alternatives 2 and 4 (with or without Design Option B).

A-7a-33 The planting areas are described in the Draft EIS/EIR. While there would be new potential planting areas in the bulbouts under Build Alternative 2, there would also be some sidewalk planting areas removed due to the construction of station platforms.

A-7a-34 Support for Build Alternative 2 noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA.

A-7a-35 Please see response to comments A-7a-29 and A-7a-30.

A-7a-36 The LPA would include medians at least 6 feet in width, with the exception of the southern crosswalk at the Mission/South Van Ness Avenue intersection (a configuration under existing conditions.

Build Alternative 2 would feature a single 14-foot wide median at most locations. Build Alternative 3

would feature a 9-foot wide median/station platform and 4-foot wide median that would flank each side of the transitway at most locations. Build Alternative 4 would feature a single 14-foot wide median at most locations. The staff recommended LPA would feature a 9-11 foot wide median/station platform at most locations. Under Build Alternatives 2-4, there would be some locations with medians less than 5 feet in width. If one of those alternatives were selected as the LPA and the project were to be approved, efforts would be made during the design phase to ensure that the medians were at least six feet wide.

All intersections would feature a protective nose cone on the inside of the crosswalk at the median or station platform. All installed curb ramps would meet current City standards and ADA requirements to provide access by people in wheelchairs, as noted in Section 2.2, and 3.4.3.

A-7a-37 Curb ramps will be brought up to accessible standards as part of project. Installation of curb ramps may require sidewalk replacement at intersection corners; however, sidewalk replacement in its entirety is not part of the scope of the project and is not required to construct the project. Repaving the sidewalks would increase the capital cost and construction impact of the project significantly, risking the project's feasibility.

A-7a-38 The project team will work closely with blind and low vision stakeholder groups and experts to ensure universal design and accessibility. This could include audible (e.g., sound queues to identify station locations), visual (e.g., symbols visible from far distances), and tactile (e.g., sidewalk materials) features. The project team has already conducted a focus group with blind and low-vision transit riders, coordinated through the Lighthouse for the Blind and Visually Impaired, and has also met with the Muni Accessibility Advisory Committee (MAAC) in multiple instances.

A-7a-39 The universal design analysis included as part of Chapter 3.5 was reviewed by DPW. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA.

A-7a-40 The staff recommended LPA will include platforms of a minimum of 9 feet in width, exceeding ADA and City standards for boarding islands.

A-7a-41 See Master Response #5 for a full discussion of stop spacing. The increase in stop spacing and sidewalk grade is discussed as part of the universal design analysis in the Non-Motorized Transportation Chapter (3.4) in the Draft EIS/EIR. In response to comments regarding wider stop spacing in the vicinity of the Van Ness Avenue and Vallejo Street intersection, which has higher grades than other parts of the corridor, the LPA would include a southbound station at the intersection of Vallejo Street and Van Ness Avenue A northbound transit station in this same location, referred to as the Vallejo Northbound Station Variant, could also be implemented, and will be decided upon at the time of project approval.

A-7a-42 The Parking section (3.5) and Community Impacts section (4.2) in the EIS/EIR identify blocks where loading and accessible zones would be moved and could not be replaced on the same block or immediately adjacent streets. Under the LPA (with or without the Vallejo Northbound Station Variant), no blocks have blue spaces removed that could not be replaced on the same block. Exact replacement locations will be determined in later stages of design, and will be done in consultation with SFMTA Accessible Services. The design will place accessible parking and loading zones in areas with the least amount of running grade and cross slope as possible.

A-7a-43 The minimum crossing speeds are shown in Chapter 3.4 of the Draft EIS/EIR (Non-Motorized Transportation). Wherever possible, the project strives to meet the 2.8 feet per second standard. (Arup, 2012). The LPA, in part due to the reduction in left turn locations as well as pedestrian bulbout opportunities, would be able to reconfigure Van Ness Avenue so that it meets the federal standard of 3.0 feet per second for 24 intersections in the project area and the City recommended standard of 2.8 feet per second for 6 intersections. Currently, 8 intersections do not meet the 3.0 foot standard and 9 intersections do not meet the 2.8 feet per second standard. The LPA will provide a minimum of 6 foot pedestrian refuges for all crossings except the southern crosswalk at Mission/South Van Ness Avenue, a configuration under existing conditions. The project (LPA) increases the number of intersections meeting

the additional City standard of 2.5 feet per second standard from 3 to 6.

City and County of San Francisco

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DRAFT

October 16, 2007

Ms. Tilly Chang, Deputy Director of Planning
San Francisco Transportation Authority
100 Van Ness, 26th Floor
San Francisco, CA 94102-5244

Subject: Department of Public Works' review comments on the Van Ness BRT EIR

Thank you for the opportunity to participate in the Van Ness BRT EIR scoping meeting. The Department of Public Works (DPW) looks forward to working with the San Francisco Transportation Authority (TA) on the upcoming Van Ness BRT project. DPW's responsibility for the maintenance and improvements of the public Right of Way in San Francisco make the DPW an important stakeholder in the project. The DPW shares the TA's commitment to ensure that San Francisco receives good value for its transportation investments, while improving the public Right of Way for all users.

Based on information from the Van Ness BRT EIR scoping meeting held at the TA's offices October 4, 2007, as well as from the previous feasibility study meetings, DPW has the following comments:

1. All alternatives should be studied equally. Some discussion was had in the scoping meeting of not including the Curb side alternative. The DPW would like to ensure that both the Curb side and Transit System Management (TSM) alternatives are studied. **A-7b-1**

2. As mentioned in the scoping meeting, the DPW has concerns about the impacts of the Center loading alternative, which may impact pedestrian safety, ADA access, and would result in significant tree loss. **A-7b-2**

3. The DPW does not support Caltrans relinquishment of the Right of Way to the City. **A-7b-3**

4. Based on discussion in the scoping meeting, DPW understands that as part of the EIR process, an agency coordination plan will be developed, including the TA convening a multi-agency TAC. It is our expectation that prior to selecting the preferred alternative, there will be an opportunity to comment on specific design and operations. **A-7b-4**

We look forward to working with you on this exciting project.

Regards,

Fred V. Abadi, Ph.D.

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7b-1	Comment is out of date. Alternatives are defined in Chapter 2 of the EIS/EIR, and have been studied equally in compliance with NEPA.
A-7b-2	Comment is out of date. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for analysis supporting the LPA. Concerns cited in the comment were taken under consideration in the selection process (see indicators C-1 through C-4 and indicator F-6).
A-7b-3	The Draft EIS/EIR assumes that Caltrans retains ownership of the Right of Way.
A-7b-4	DPW has participated in the TAC throughout the EIS/EIR phase of the project. DPW was able to comment on the locally preferred alternative as part of the public commenting process and continues to work on the refinement of the LPA design and operation through the TAC process. If the project is approved, DPW would be closely involved in the design process.

NOTE: This letter (in DPW Attachment 5) is the same letter as Letter 7c (Attachment 3). See that letter for comments.

City and County of San Francisco

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Department of Public Works
Bureau of Urban Forestry
2323 Cesar Chavez, Bldg. A
San Francisco, CA 94124

Liz Lerma, Acting Superintendent

August 29, 2008

To: Kris Opbroek
Subject: Urban Forestry review comments regarding the Preliminary Engineering Studies documents dated August 14, 2008, as prepared by Parsons for the San Francisco Transportation Authority.

Urban Forestry General Comments:

1. More details are needed regarding the general landscape plan, in order to fully evaluate the alternatives. **A-7c-1**
2. While DPW and other agencies have been diligent about commenting on the alternatives from the initial planning phase, these concerns have not necessarily been incorporated into the BRT alternatives currently presented. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. **A-7c-2**
3. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective. Center islands are problematic, as center lane BRT's would have a huge negative impact on San Francisco's infrastructure and assets: landscaping, irrigation systems and mature trees of significant value. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees. **A-7c-3**
4. Alternative 2 provides wider sidewalks. Wider sidewalks provide (1) more space for greening along Van Ness, a mayoral priority; (2) would better address storm water management, a crucial PUC issue tied to the maintenance of San Francisco's aging sewer system; (3) increases the regional water system's reliability by putting storm water into the ground, rather than into the sewer system; (4) is environmentally superior because it reduces wastewater discharges to the San Francisco Bay and Pacific Ocean by putting storm water into the ground, rather than into the sewer system; (5) will add more beauty to the cityscape and therefore, (6) increases property values and; (7) are also more pedestrian friendly. **A-7c-4**
5. Due to the proposed bulb-outs, Alternative2 will provide by far the best curb ramps along this corridor. There are locations where sub-sidewalk basements encroach into the street corner area. Providing bulb-outs will minimize and perhaps eliminate conflicts between curb ramps and sub-sidewalk basements, and thereby will minimize the unit costs for curb ramps, a cost savings to San Francisco. **A-7c-5**
6. What is the long-term plan for landscape maintenance? **A-7c-6**

Alternative 2: Side Lane BRT
Sheet A2-1

1. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective. **A-7c-7**
2. More detail needed RE: proposed landscape areas at Otis and South Van Ness Avenue. **A-7c-8**

Sheet A2-2 through A2-10

1. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective. A-7c-9
2. More detail needed RE: proposed landscape areas. A-7c-10

Alternative 3: Center Lanes with Side Median BRT

Sheet A3-1 through A 3-6

1. Raised island platforms do not allow for tree planting. A-7c-11
2. Center bus lanes may require bus lane closures to perform landscape maintenance. A-7c-12
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees A-7c-13
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-14

A3-7

1. Will require removal of a signature tree, the Rosa Parks Memorial Tree, which will likely go to the Board of Appeals, with much public opposition expected. A-7c-15
2. Raised island platforms do not allow for tree planting. A-7c-16
3. Center bus lanes may require bus lane closures to perform landscape maintenance. A-7c-17
4. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees A-7c-18
5. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-19

A3-8

1. Raised island platforms do not allow for tree planting. A-7c-20
2. Center bus lanes may require bus lane closures to perform landscape maintenance. A-7c-21
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees A-7c-22
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-23

A3-9

1. Raised island platforms do not allow for tree planting. A-7c-24
2. Center bus lanes may require bus lane closures to perform landscape maintenance. A-7c-25
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees A-7c-26
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-27

A3-10

1. More detail needed RE: proposed landscape areas. A-7c-28

Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

Sheet A4-1 through A4-6

1. Raised island platforms do not allow for tree planting. A-7c-29
2. Center bus lanes require bus lane closures to perform landscape maintenance. A-7c-30
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees. A-7c-31
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-32

A4-6

1. Raised island platforms do not allow for tree planting. A-7c-33
2. Center bus lanes require bus lane closures to perform landscape maintenance. A-7c-34
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees. A-7c-35
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-36

A4-7

1. Will require removal of a signature tree, the Rosa Parks Memorial Tree, which will likely go to the Board of Appeals, with much public opposition expected. A-7c-37
2. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees. A-7c-38
3. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-39

A4-8 through A4-10

1. Raised island platforms do not allow for tree planting. A-7c-40
2. Center bus lanes require bus lane closures to perform landscape maintenance. A-7c-41
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees. A-7c-42
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible. A-7c-43

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7c-1	Sufficient details are provided in the EIS/EIR for each alternative to evaluate the environmental impacts of landscape changes. The BUF was consulted for representative plants to put in the visualizations and to be used for analysis. See Master Response #7 for details on tree removal and planting opportunities. The EIS/EIR assesses the effects of tree removals in Sections 4.4 (Aesthetic and Visual Resources) and 4.13 (Biological Environment) as well as in the Alternatives Analysis, Chapter 10. Mitigation measures are identified in Section 4.4.4 that will assure the landscape plan that will be developed during the advanced project design phase will maintain the aesthetic character of the project area.
A-7c-2	Comment is out of date. Since date of this comment, BUF provided input on the representative plantings which are shown in the visualizations in the Draft EIS/EIR, and their comments related to possible plantings were incorporated.
A-7c-3	Support for Build Alternative 2 noted. See Master Response #7 for details on tree removal and planting opportunities. The EIS/EIR assesses the effects of tree removals in Sections 4.4 (Aesthetic and Visual Resources) and 4.13 (Biological Environment) as well as in the Alternatives Analysis, Chapter 10. Public presentations on the project have included concerns about tree removal. The extent of tree removal differs under each build alternative and the LPA, and detailed information on reasons for tree removal and their condition (maturity and health) is presented in Section 4.4.3.4.
A-7c-4	1) All alternatives, including the staff recommended LPA (with or without the Vallejo Northbound Station Variant), provide additional effective sidewalk space by moving the bus stops from the sidewalk to BRT station locations. Build Alternative 2 does not provide any additional sidewalk space beyond the other Build Alternatives. 2 - 4) Permeable surface area for all alternatives is quantified in Chapter 4.9 (Hydrology and Water Quality). All build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would increase the amount of permeable surface. Build alternatives 2 and 4 would increase the permeable surface the most. 5-6) Please see Chapter 10 of the EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. Section 10.2.4.4 has criteria related to urban design. It does not discuss impact of each alternative on real estate values, as there is not sufficient information to determine such a measure. 7) Chapter 3.4 of the Draft EIS/EIR (Non-Motorized Transportation) evaluates each of the alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), on pedestrian safety and comfort. Chapter 10 (Alternatives Analysis) also demonstrates the performance of each of the alternatives against pedestrian evaluation criteria and performance indicators. Please see Chapter 10 of the EIS/EIR and the LPA report for the analysis supporting the LPA. Section 10.2.4.3 contains criteria related to access and pedestrian safety.
A-7c-5	Comment is out of date. Alternatives have since been better defined as part of the EIS/EIR. All of the build alternatives, including the LPA, would provide corner bulbouts.

A-7c-6 The project assumes that DPW would continue to maintain the landscaping under any of the alternatives. Cost sharing agreements for any increased cost over existing conditions will be refined and negotiated during the design phase, if the project is approved.

A-7c-7 Support for Build Alternative 2 noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the LPA.

A-7c-8 Comment is out of date. Alternatives have since been better defined.

A-7c-9 Support for Build Alternative 2 noted. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the LPA.

A-7c-10 Comment is out of date. Alternatives and landscaped areas were better defined as part of the Draft EIS/EIR.

A-7c-11 Large tree plantings are not proposed for platform locations nor are they represented as such in the EIS/EIR.

A-7c-12 Maintenance agreements and requisite operational accommodations will be further refined as part of the design phase, if the project is approved. Additional maintenance costs for the build alternatives, including the LPA, are reflected in Chapter 9 of the EIS/EIR.

A-7c-13 See Master Response #7 for details on tree removal and planting opportunities. The EIS/EIR assesses the effects of tree removals in Sections 4.4 (Aesthetic and Visual Resources) and 4.13 (Biological Environment) as well as in the Alternatives Analysis, Chapter 10.

A-7c-14 Comment is out of date. Since the date of this comment, the project team worked with DPW Bureau of Urban Forestry to determine representative landscaping which is shown in the visualizations in Chapter 4.4. BUF comments regarding the feasibility of landscaping were incorporated into the EIS/EIR.

A-7c-15 Build Alternative 3 and the staff recommended LPA would require the removal of the dedicated Rosa Parks Memorial Tree. All relevant City processes will be followed, as described in Chapter 4.13 Biological Environment.

Since the Rosa Parks tree is relatively young, it could be relocated to a different location, either along the corridor or in a different part of the city. Decisions about tree plantings and relocation of existing trees will be decided as part of the design phase if the project is approved.

A-7c-16 Tree planting on station platforms is not proposed as part of this project.

A-7c-17 Maintenance agreements, and requisite operational accommodations will be further refined as part of the design phase, if the project is approved. Additional maintenance costs of the build alternatives, including the LPA, are reflected in Chapter 9 of the EIS/EIR.

A-7c-18 See Response to Comment A-7c-13.

A-7c-19 Comment is out of date. Since the date of this comment, the project team worked with DPW Bureau of Urban Forestry to determine representative landscaping which is shown in the visualizations in Chapter 4.4. BUF comments regarding the feasibility of landscaping were incorporated into the EIS/EIR.

A-7c-20 The Draft EIS/EIR does not propose tree planting on station platforms.

A-7c-21 Maintenance agreements, and requisite operational accommodations will be further refined as part of the design phase, if the project is approved. Additional maintenance costs for the build alternatives, including the LPA, are reflected in Chapter 9 of the EIS/EIR.

A-7c-22 See Response to Comment A-7c-13.

A-7c-23 See Response to Comment A-7c-19.

A-7c-24 Tree planting on station platforms is not proposed as part of this project.

A-7c-25 Maintenance agreements, and requisite operational accommodations will be further refined as part of the design phase if the project is approved. Additional maintenance costs for the build alternatives, including the LPA, are reflected in Chapter 9 of the Draft EIS/EIR.

A-7c-26 See Response to Comment A-7c-13.

A-7c-27 See Response to Comment A-7c-19.

A-7c-28 Comment is out of date. Alternatives and landscaped areas were better defined as part of the Draft EIS/EIR.

A-7c-29 Large tree plantings are not proposed for platform locations nor are they represented as such in the EIS/EIR.

A-7c-30 Maintenance agreements, and requisite operational accommodations will be further refined as part of the design phase if the project is approved. Additional maintenance costs for the build alternatives, including the LPA, are reflected in Chapter 9 of the EIS/EIR.

A-7c-31 See Response to Comment A-7c-13.

A-7c-32 See response to comment A-7c-19 above.

A-7c-33 See response to comment A-7c-29 above.

A-7c-34 See response to comment A-7c-30 above.

A-7c-35 See response to comment A-7c-13 above.

A-7c-36 See response to comment A-7c-19 above.

A-7c-37 See response to comment A-7c-15 above.

A-7c-38 See response to comment A-7c-13 above.

A-7c-39 See response to comment A-7c-19 above.

A-7c-40 See response to comment A-7c-29 above.

A-7c-41 See response to comment A-7c-30 above.

A-7c-42 See response to comment A-7c-13 above.

A-7c-43 See response to comment A-7c-19 above.

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Department of Public Works
Bureau of Street Environmental Services
2323 Cesar Chavez Street
San Francisco, CA 94124-1003

Tim Hines, Acting Superintendent

Date: September 4, 2008

To: Kris Opbroek, Project Manager

From: Chris Ellen Montgomery, Assistant Superintendent BSES

Subject: Bureau of Street Environmental Comments, RE: General Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

More details are needed regarding the median design plan, in order to fully evaluate our ability to mechanical sweep. We have had problems with other transportation designs. For example, the 3rd Street Light Rail platform design is problematic- we need to use a Flusher to push the debris out from under the platform before we can remove it.

Depending on platform design, our mechanical sweeping costs may be doubled. Presently, Van Ness is swept at night (there is a 10% pay differential) with minimum impact to vehicle traffic or pedestrians. If the platform is built with an overhang, we might have to use an additional truck driver to operate a Flusher truck. This also increases our use of water. Once the center median/platform was flushed, we would also then need to mechanically sweep it. An overhanging platform provides areas for debris to collect and accumulate despite regular sweeping. Whenever there is an interface between buses and maintenance workers, there is an increased safety risk. **A-7d-1**

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7d-1	Comment is out of date. DPW has determined that there would not need to be an additional truck because the platforms are not proposed to be built with an overhang. Operations and maintenance costs, provided by DPW, are reflected for each alternative in Chapter 9 as well as the Alternatives Analysis, Chapter 10 in the EIS/EIR. All City standards will be met for the maintenance of the BRT infrastructure. The project team has been working closely with DPW operations to determine cost and operation of maintenance along the corridor. Agreements will be further developed as part of the design phase, if the project is approved.

City and County of San Francisco

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Gavin Newsom, Mayor
Edward D. Reiskin, Director

Date: September 5, 2008

To: Rachel Hiatt, San Francisco County Transportation Authority

From: Kris Opbroek, Project Manager, Department of Public Works

Subject: Department of Public Works Comments
Van Ness Avenue Bus Rapid Transit (BRT), Preliminary Engineering Studies, August 14, 2008

The Department of Public Works has evaluated the three Alternatives shown in the Preliminary Engineering Studies, August 14, 2008. Comments are attached and structured as follows:

Bureau of Engineering (BOE), Landscape Architecture (ELA), John Thomas
Bureau of Engineering (BOE), Streets & Highways (ESH), Patrick Rivera
Bureau of Engineering (BOE), ADA, Disability Access Coordinator, Kevin Jensen
Bureau of Engineering (BOE), Mechanical (EME), Michael Smith
Bureau of Engineering (BOE), Hydraulics (EHY), Ken Sin
Bureau of Street Environmental Services (BSES), Chris Montgomery
Bureau of Urban Forestry (BUF), Liz Lerma

I would also like to highlight that the Better Streets Policy, Chapter 98 of the San Francisco Administrative Code (Ord. 33-06, File No. 051715, App. 3/10/2006), calls for a number of design requirements for city streets. This expands upon the City's Transit First Policy and the Urban Design Element of the City's General Plan to include elements such as, but not limited to, stormwater management (98.1.c.2), generous landscaping, lighting and greenery (98.1.c.1), public view corridors (98.1.c.3), habitat for urban wildlife (98.1.c.4) and useable open space (98.1.d.3). The three alternatives should be evaluated with this policy as the city standard.

Basic comments on the three alternatives relative to the Better Streets Policy:

Alternative 2: Maintains the current stormwater benefit of the median. Also maintains generous landscaping and greenery, public view corridors, habitat for urban wildlife. **A-7e-1**

Alternative 3: Significantly reduces the stormwater management and landscaping and greenery, degrades the public view corridor and habitat for urban wildlife. **A-7e-2**

Alternative 4: Somewhat reduces the stormwater management and landscaping and greenery by removing portions of the existing median, degrades the habitat for urban wildlife. **A-7e-3**

To: **Rachel Hiatt, San Francisco County Transportation Authority**

From: **John Thomas, Landscape Architect, Dept. of Public Works**

Date: **August 27, 2008**

Re: **Van Ness BRT Study—Alternatives Evaluation, Urban Design/Landscape Criteria**

The Department of Public Works has evaluated the alternatives for the Van Ness Avenue Bus Rapid Transit Study based on their urban design performance. The five scenarios studied were:

- Alternative 1: 2010 No Project
- Alternative 2: Side Lanes
- Alternative 3: Center Lanes with Side Medians
- Alternative 4: Center Lanes with Center Medians

We evaluated, commented on and assigned a score on a scale of 1 (low) to 5 (high) to certain urban design criteria, including:

- Street identity
- Ability to create useable open space
- Quantity, quality and character of landscape
- Quality of sustainable storm water management treatments

We have also commented on but did not assign a score to other related criteria with the expectation that this will inform the evaluations and scoring being prepared by other City Departments, including:

- BRT transit route branding

Sub criteria for Urban Design Evaluation

A-7e-4
continued

Street Identity. This sub criterion reflects the ability of an alternative to develop a coherent design concept for Van Ness Avenue through the design and placement of the BRT platforms, traffic lanes, street trees, and planting areas.

Ability to Create Useable Open Space. This sub criterion reflects the ability of an alternative to provide spaces along Van Ness Avenue, which pedestrians may use comfortably for a variety of purposes.

Quantity, Quality and Character of Landscaping. This sub criterion reflects the ability of a BRT alternative to provide street trees and ground covers in a manner that enhances its overall identity, and supports and enhances its primary elements (for example, sidewalks, traffic/BRT lanes, and BRT platforms).

A-7e-4 continued

A-7e-5 continued

Quality of Sustainable Storm Water Management Treatments. This sub criterion reflects the ability of a BRT alternative to reduce the amount of storm water runoff.

Summary of Urban Design Evaluation

Alternative 1: 2010 No Project (existing conditions)

The existing landscape character of Van Ness Avenue is one of the most developed of San Francisco's major thoroughfares. From Market Street to Lombard Street, 292 mostly mature trees occur along the sidewalks. The predominant sidewalk tree is London Plane Tree (Platanus acerifolia) with 194 specimens. Other significant tree species include Ficus microcarpa (41 trees), Tristania conferta (23 trees), and Acacia melanoxylon (20 trees).

In addition to the sidewalk trees, 89 trees occur in the center median. Thirty-seven mature specimens of various Eucalyptus species and six small flowering fruit trees have been complemented in recent years by two additional species. Thirty Tristania conferta have been planted in the narrow median sections created by the left-turn lanes, and 16 Quercus suber (Cork Oak) have been planted where the median is at its full fourteen-foot width. In 2006, one of these cork oaks, a large 60" box specimen, was planted (north of Jackson Street) in memory of Rosa Parks.

Enhancing the center median tree planting is an extensive (51,000 square feet) area for median groundcovers. Approximately 28,000 square feet of this area was recently renovated with Ceanothus, Geranium Ivy and Fortnight Lily. As part of the renovation, the chain link fence on the Civic Center block between McAllister Street and Grove Street was replaced with ornamental fencing. Throughout the corridor, the median planting is currently set back from the back of curb by a 1'-6" wide concrete or cobble edging. The edging improves safety for maintenance staff by establishing a shy way from vehicular traffic.

A streetscape proposal for Van Ness Avenue from Market St. to McAllister St. is currently in the planning/agency review phase. The proposal includes sidewalk planting areas with raised curbs and low ornamental fencing, hanging planter baskets from the existing street lights, a landscaped median from Market St. to Fell St., and street trees on both sides of Van Ness between Grove St. and McAllister St.

Alternative 1 has a relatively consistent character with respect to the median footprint, maintaining a regular form except where left-turn lanes are provided. The mature trees and approximate 50,000 square feet of groundcover area retain rainwater, thereby reducing storm water runoff.

Alternative 2: Side Lanes

The design features of the side lane alternative conserve and build upon the existing condition of Van Ness Avenue. The 14-foot wide existing median becomes more continuous with the reduction of left-turn lanes. The line of sidewalk street trees, which is currently broken at the bus stops, may now run continuously behind the bus bulb platform areas. With the preservation of the existing trees and groundcovers, the plant palette for Alternative 2 will most likely be derived from the existing vegetation: London Plane and Tristania trees in the sidewalks; and Eucalytus, Tristania, and Cork Oak in the

A-7e-5
continued

center median. The center median's 14-foot width permits a broad selection of tree profiles, from upright to spreading, should additional tree species be considered at certain highlighted locations (for example, Market St. or between O'Farrell St. and Geary St.)
Alternative 2 performs strongly on all of the urban design criteria: street identity; ability to create useable open space; quality, quantity, and character of landscape; and quality of sustainable storm water management treatments.

Alternative 2 has strong street identity because it preserves the existing planted median on Van Ness Avenue with minimal lane weaving, thus maintaining a consistent linear form with transitions only at the left-turn lane pockets. The median trees and sidewalk trees exhibit a consistent pattern on a block-by-block basis: there are no segments of the corridor where both do not occur. With the introduction of the bulbs at the bus platforms, sidewalk trees may now form a continuous tree line along the sidewalk. This will significantly improve upon the existing condition, where sidewalk trees generally do not occur in the bus stops. The trees and landscape median also have a consistent relationship to the roadway and BRT lanes by framing their edges.

The center median's 14-foot width allows sufficient room for the planting to be set back from the curb, thus increasing the safety of maintenance staff. (A 1'-6"-wide paved border has been installed on the existing median for this purpose.) The median width also allows the median planting profile to vary in height if desired (for example, beginning low at the curb and ascending in height toward the center).

Alternative 2 creates useable open space because the bus platforms integrate with the adjacent sidewalk, creating 23'-wide sidewalk areas that serve as mixed-use spaces. Bus riders waiting in the platform areas would benefit from the nearby presence of street trees running through where the platform meets the sidewalk. In addition, the dedicated BRT lane adjacent to the sidewalk places through traffic 12'-6" away from pedestrians at the bus platform (19'-6" where there is a parking lane), thus providing separation between vehicles and pedestrians.

Of the three alternatives, Alternative 2 preserves the most existing median vegetation, thus retaining the most mature tree canopy. It also provides the most median landscape area (94,000 square feet). Its area to edge ratio (square feet of landscape area/linear feet of edge) is the highest of the three alternatives (8.27) This figure indicates that the shape of the median areas is wider than in the other schemes, thus giving the medians more compositional strength and improving the ease of maintenance.

With regard to branding, Alternative 2 provides an opportunity to create bus stops with architectural features in front of a continuous street tree line. The stops would create an alternating rhythm effect along Van Ness Avenue as they move from one side to the other. Although buses would not have exclusive use of the BRT lanes, the lanes' continuous and regular linear form has potential for articulation in texture and/or color.

Alternative 3: Center Lanes with Side Medians

Alternative 3 places the dedicated BRT lanes in the center of Van Ness Avenue, flanked by side medians. Bus platforms occur in the side medians. The side medians range in width. Block segments are 2', 4', 6', 8' and 12' wide, with most median widths six or eight-feet. Where lanes transition in horizontal alignment, the median end tapers.

A-7e-5
continued

Since Alternative 3 removes all but four of the existing median trees, new median trees (approximately 237 trees, planted 40' on center) are proposed where the median is at least 4-feet wide. Since the medians are relatively narrow and adjacent to vehicular lanes, tree profiles should be either columnar or upright to avoid conflicts with spreading branches. Tree species selection could reflect an emphasis on certain highlighted locations such as Market St. and the medians north and south of the Geary St. bus platforms. The application of a 1'-6"-wide paved setback to the 6' and 8'-wide medians would reduce the planting area to 50% or less of the overall median width.

The placement of the bus platforms in the center medians allows the sidewalk tree planting to run continuously along the entire block. Tree species selection would most likely be either London Plane Tree or Tristania (Brisbane Box), two of the most commonly planted existing sidewalk trees.

Alternative Three's concept of placing the BRT lanes in the center of the roadway, separated from traffic lanes by parallel landscape medians and bus platforms, has the potential for a strong axial effect. Formal inconsistency and the inability to plant trees on the BRT platform due to accessibility clearances, however, limit the effectiveness of the parallel medians to establish a consistent streetscape character and mediate between the BRT realm and vehicular traffic. The landscape medians weave in their horizontal alignment, and vary considerably in width and shape. In some cases they are too narrow for trees, which, coupled with the treeless bus platforms, breaks the continuity of the median tree line along the corridor.

The character of Alternative 3's center realm varies along the corridor. Blocks may have consistent double rows of trees through the entire block length; rows of trees combining with bus platforms in either a staggered or parallel composition; or no trees where the median is less than four-feet wide.

The amount of median area in Alternative 3 that can be planted in trees and groundcovers is approximately 49,800 square feet. The area to edge ratio is 3.25, the lowest of all the alternatives. Since Alternative 3 removes the most existing trees and has the least amount of shrub/groundcover area, its ability to retain rainwater is comparatively low.

With regard to branding, Alternative 3 provides an opportunity to create a freestanding architectural image for the bus platforms in the center of the roadway. The irregular weaving pattern of the dedicated BRT lanes diminishes their figural character.

Alternative 4: Center Lanes with Center Medians

Alternative 4 retains all or portions of the center median for 11 blocks between Market St. and Lombard St. The placement of the bus platforms in the center medians allows the sidewalk tree planting to run continuously along the entire block. Tree species selection would most likely be either London Plane or Tristania, the two most commonly planted existing sidewalk trees. The appropriate tree profiles for the center realm will vary. Fourteen-foot wide landscaped medians allow for trees with a columnar to spreading habit, while eight-foot medians would accommodate columnar to upright trees. The variation in median width would also affect the application of a 1'-6" wide paved setback, which proportionally works best with the 14' median.

A-7e-5
continued

In so far as it preserves more of the existing center median, Alternative 4 compares favorably to Alternative 3. Alternative 4 preserves more existing trees (35) and provides more shrub/groundcover area (64,700 square feet) than any of the center loading alternatives (and thus ranks well with regard to storm water retention). Its area to edge ratio of 4.93 is also the highest of the center loading concepts.

With regard to street identity, Alternative 4 has qualities similar to Alternative 3 (center lanes with side medians). Where side medians occur they are frequently irregular and narrow in shape due to the weaving lane configuration. This condition, coupled with treeless bus platforms resulting from accessibility clearances, results in an inconsistent tree pattern. On six blocks north of Sutter Street, a side median is two-feet wide, too narrow to plant with ground covers or trees.

The branding potential for Alternative 4 lies with the bus platforms occupying a freestanding location in the center of the right-of-way. Lane weaving and the highly variable quality of the medians undermine its ability to express a coherent transit realm.

Overall, Alternative 2: Side Lanes performed best of the four proposed alternatives. It preserves the most existing trees and landscape area; results in significantly more planting area with a high area to edge ratio as well as formal consistency; and creates the most useable public space by integrating with the existing sidewalks. Alternative 5: Contra-Flow performed the best of the center platform alternatives, due to its strong linear form and compositional clarity and consistency. Alternative 3: Center Lanes with Side Median, and Alternative 4: Center Lanes with Center Median are compositionally inconsistent, with medians of irregular and narrow shape. Of the two, Alternative 4 had the larger amount of trees and groundcover area, as well as the higher area to edge ratio.

Please see the attached spreadsheets for a full description of the evaluation of alternatives and assigned scores.

	Alternative 1: 2010 No Project (Existing Conditions)	*Alternative 2: Side Lanes*	*Alternative 3: Center Lanes with Side Medians*	*Alternative 4: Center Lanes with Center Medians*
Street Identity	-strong central axis with consistently planted 14' wide median	- preserves existing median planting	-center medians weave and vary in width and shape	- center medians weave and vary in width and shape
		- traffic lanes/median consistently linear, with minimal weaving	- presence of median trees and groundcovers vary from block to block	- presence of median trees and groundcovers vary from block to block
		- median trees consistent on block by block basis		
Ability to Create Useable Open Spaces		- side platforms combine with sidewalks to create 23' wide mixed-use spaces, especially valuable when where ground is relatively level	- 8' wide bus platforms bounded by roadway provide little opportunity for multiple uses	- 8' wide bus platforms bounded by roadway provide little opportunity for multiple uses
		- bus platform areas can be shaded by sidewalk trees		
Quality, Quantity and Character of Landscape		- total (net) median trees: 200	- total (net) median trees: 241	- total (net) median trees: 169
	14,750 s.f. paved median	- 217 new sidewalk trees	- 217 new sidewalk trees	- 217 new sidewalk trees
	- area/edge ratio: 6.90	- 0 s.f. paved median (median less than 4' wide)		
	-292 existing sidewalk trees	- preserves 89 existing trees and 28,000 s.f. existing groundcover	- removes 85 existing trees (4 existing trees remain); removes 28,000 s.f. existing groundcover	- removes 54 existing trees (35 to remain); removes 16,000 s.f. existing groundcover
	-London Plane Tree predominant sidewalk tree	- 94,000 s.f. median planting area	- 49,800 s.f. median planting area	- 64,700 s.f. median planting area
	-89 median trees (mature Eucalyptus and Rosa Parks Memorial Tree)	- 111 proposed median trees (40' on center spacing)	- 237 proposed median trees (40' on center spacing)	- 134 proposed median trees (40' on center spacing)
	- 51,000 s.f. median planting area	- 1,100 s.f. median with trees/no groundcover (median 4' wide)	4,100 s.f. median with trees/no groundcover (median 4' wide)	- 2,200 s.f. median with trees/no groundcover (median 4' wide)
	- sidewalk tree line broken at bus stops	- area/edge ratio: 8.27	- 2,800 s.f. paved median (median less than 4' wide)	- 3,300 s.f. paved median (median less than 4' wide)
	- 14'-wide median with 1'-6" concrete/cobble shyway easy to maintain		- relatively narrow medians of irregular shape difficult to maintain	- relatively narrow medians of irregular shape difficult to maintain
	-28,000 s.f. median planting recently renovated	- 14'-wide median (identical to existing condition) allows for 1'-6" shyway to set planting area back from curb, thus improving ease of maintenance	- area/edge ratio: 3.25	- area/edge ratio: 4.93
Quality of Sustainable Stormwater Management Treatments	- 37 mature Eucalyptus	- preserving existing mature trees improves storm water retention	- removing most existing mature trees decreases storm water retention	- preserves most trees of center loading alternatives
	- 51,000 s.f. median planting area	- large amount of median planting area significantly improves stormwater retention	- low amount of median planting decreases storm water retention (compared to existing condition)	- moderate amount of median planting improves storm water retention

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Alternative 2 Side Lane BRT

General Comments

1. Upgrade all curb returns with ADA compliant ramps — A-7e-6
2. Existing hydrants at corners with planned bulb outs will need to be relocated toward the new curb alignment — A-7e-7
3. See attached Conflict Report below prepared and submitted to SFCTA on 7/15/2005 — A-7e-8

A2-1

1. Mission/Otis: Will one of the double left turn lanes from EB Mission to WB Otis be removed with the curb bulbing? Suggestion to not change the double left turn lane — A-7e-9
2. Will 12th St. be two ways at S.Van Ness? — A-7e-10

Alternative 3 Center Lanes w/ Side Median BRT

General Comments

1. Upgrade all curb returns with ADA compliant ramps — A-7e-11
2. Existing hydrants at corners with planned bulb outs will need to be relocated toward the new curb alignment — A-7e-12
3. See attached Conflict Report below prepared and submitted to SFCTA on 7/15/2005 — A-7e-13

A3-1

1. Mission/Otis: Will one of the double left turn lanes from EB Mission to WB Otis be removed with the curb bulbing? Suggestion to not change the double left turn lane — A-7e-14
2. Will 12th St. be two ways at S.Van Ness? — A-7e-15

Alternative 4 Center Lnes w/ Left Side Loading/CenterMedian BRT

General Comments

1. Upgrade all curb returns with ADA compliant ramps — A-7e-16
2. Existing hydrants at corners with planned bulb outs will need to be relocated toward the new curb alignment — A-7e-17
3. See attached Conflict Report below prepared and submitted to SFCTA on 7/15/2005 — A-7e-18

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Van Ness Bus Rapid Transit Study
Potential Public Works and Utility Conflicts with Alternative BRT Concepts
Review of Sewer As-Builts; Auxiliary Water Supply System As-Builts;
and Water Department As-Builts
July 15, 2005
Patrick Rivera

Existing Condition

DPW sent notices of intent (NOIs) to a comprehensive list of private companies and public agencies that may have facilities along the Van Ness corridor in the vicinity of the proposed BRT projects. These NOIs request that the company provide as-built drawings of any facilities in the project study area. As of this writing, 21 of 47 total agencies have responded to the notice. Of those 21, DPW finds that three companies/agencies have facilities in the project area that may have significant implications for the BRT alternatives. These include a sewer facility and auxiliary water supply facilities, described below. It's recommended that during the planning phase, a utility composite drawing be developed in order to overlay the various BRT options to determine potential conflicts.

A-7e-19

Sewer As-Builts

A-7e-20

Along Van Ness Avenue from Market to Lombard Streets, there are manholes and various sizes and types of sewer lines that run down the center of Van Ness Avenue. These sewer lines are located underneath the existing center median. The sizes and types of sewer lines include the following:

- 3'x5' brick sewer
- 27" Vitrified Clay Pipe (VCP)
- 12" VCP
- 18" VCP
- 16" RCP
- 15" Iron Stone Pipe (ISP)
- 16" ISP
- 16" Brick Pipe

During planning and design of the Van Ness BRT, consideration should be given to the affect any future maintenance, repair and replacement of the sewer lines will have on the operation of the proposed Van Ness BRT lines. Depending on which alignment is chosen (center-lane or side-lane), Muni service may need to be altered in order to accommodate for these operations. The center-lane BRT alternatives should allow for maintenance workers to access the center median area to repair sewer facilities as necessary. Ensuring the ability to reroute Muni service to a lane other than the center lane in the event of needed sewer repairs will address the conflict. Also, manholes may need to be relocated and associated sewer lines may need to be realigned to accommodate for proposed medians and boarding islands.

Auxiliary Water Supply System (AWSS) As-Builts

A-7e-21
continued

The AWSS system is a high pressure water system that supplies water to fight fires for the specific use of the San Francisco Fire Department. The system includes the underground ductile iron and cast iron pipes and underground cisterns. The AWSS lines along Van Ness switches from the east to the west side of Van Ness. The location of the AWSS lines from the face of curb to the centerline of the pipes vary between 20ft to 35 ft. During planning and design of the Van

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Ness BRT, consideration should be given to the affect any future maintenance, repair and replacement of the AWSS lines will have on the operation of the proposed Van Ness BRT lines. BRT alternatives should not prevent access to the underground AWSS lines. Depending on which alignment is chosen, Muni service may need to be altered in order to accommodate for these operations. Ensuring the ability to reroute Muni service to other lanes in the event of needed AWSS repairs will address this conflict. A-7e-21 *continued*

Also, gate valves may need to be relocated and associated AWSS lines may need to be realigned to accommodate for proposed medians and boarding islands. Gate valves are used to control water flow through the AWSS pipes. A special truck with a motorized rig is used to turn the gate valves. There must be adequate access for the trucks to park next to the gate valve in order to turn the valves. The gate valves cannot be located beneath a medians or boarding islands. Furthermore, per City standard, hydrants may need to be relocated to within 24 inches to 27 inches from the face of the curb to the centerline of the hydrant at proposed curb bulb areas. A-7e-22

Another AWSS facility within the Van Ness corridor is the SFFD cisterns. Cisterns are large storage tanks buried under the roadway surface approximately 25' to 30' in diameter and 20'-25' tall and hold approximately 75,000 gallons of water. The cisterns are another source of water SFFD can use in addition to the fire hydrants. The as-builts identify 10 cisterns along the Van Ness corridor. During planning and design of the Van Ness BRT, consideration should be given to the affect any future maintenance, repair and replacement of the cisterns will have on the operation of the proposed Van Ness BRT lines. Depending on which alignment is chosen, Muni service may need to be altered in order to accommodate for these operations. Ensuring the ability to re-route Muni service to other lanes in the event of needed cistern repairs will address this conflict. A-7e-23

<u>San Francisco Water Department (SFWD) As-Builts</u> A-7e-24
The SFWD system provides drinking water to the businesses and residents of San Francisco as well as low pressure fire hydrants. The system includes underground ductile iron pipes, gate valves to control water flow and hydrants. The SFWD water line along both the west and east sides of Van Ness Ave. During planning and design of the Van Ness BRT, consideration should be given to the affect any future maintenance, repair and replacement of the SWFD lines will have on the operation of the proposed Van Ness BRT lines. BRT alternatives should not prevent access to the underground SFWD water lines. Depending on which alignment is chosen, Muni service may need to be altered in order to accommodate for these operations. Ensuring the ability to reroute Muni service to other lanes in the event of needed water line repairs will address this conflict. Furthermore, per City standard, hydrants may need to be relocated to within 24 inches to 27 inches from the face of the curb to the centerline of the hydrant at proposed curb bulb areas.

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Utility Companies Responding to NOI Requests

1	SBC	Bob Pickard	370 3rd St, Room 5200	San Francisco, CA 94107	415.542.9095
2	NRG	Nicholas Joseph	460 Jessie Street	San Francisco, CA 94103	415.644.9783
3	CCSF-DTIS	Gerald Snyder	901 Rankin St	San Francisco, CA 94124	415.550.2723
4	SFPUC-Water Pollution Control	Gordon Mak	750 Phelps	San Francisco, CA 94124	415.648.6882
5	Sprint	Serf Garcia	1850 Gateway Drive, 2nd Floor	San Mateo, CA 94404	650.513.2336
6	Port of San Francisco	Skip Zoeller	Pier 1	San Francisco, CA	415.274.0552
7	Electric Lightwave, LLC	Tom Burke	650 J Street	Sacramento, CA 95814-2412	916.231.5748
8	Comcast	Paul O'Leary	2055 Folsom St	San Francisco, CA 94110	415.863.8500
9	RC10N	Twila Griffith	1400 Fashion Blvd #100	San Mateo, CA 94404	650.212.8123
10	CCSF Bureau of Surveys & Mapping	Javier Rivera	875 Stevenson	San Francisco, CA 94102	415.554.5864
11	MCI	Cris Kurbanick/Pam Brown	375 Newhall St	San Francisco, CA 94124	415.970.2134
12	AT&T	JL Robinett, Shasta Consulting Group	2741 N.Main	Walnut Creek, CA 94596	925.944.8416
13	DPW BOE Hydraulics	Chung Linh	1680 Mission St., 3rd Floor	San Francisco, CA 94103	415.554.8298
14	Level 3 Communications	Steven Gilman	1025 Eldorado Blvd., Ste 33A-523	Broomfield CO 80021	720.888.5920
15	DPW BOE Mechanical Section	Michael Smith	30 Van Ness Ave., 5th Floor	San Francisco, CA 64102	415.558.4536
16	M.Powell Communications/ICG Communications	Curt Heley	190 Park Center Plaza Suite 100	San Jose, CA	
17	XO Communications	ChadAuchey	855 Mission Ct	Fremont, CA 94539	510.580.6363
18	Global Crossing	Luis Garcia	435 W.Commerial St.	East Rochester, NY 14445	585.255.1027
19	SFPUC-SFWD	Arleen Chan	1990 Newcomb Ave	San Francisco, CA 94124-1617	415.550.4931
20	SFPUC-BLHP	Rod Clavel	1155 Market St, 4th Floor	San Francisco, CA 94103	415.554.0729
21	DPT	Kenneth Kwong	25 Van Ness Ave., Ste 345	San Francisco, CA 94102	415.554.2337

Van Ness BRT – Alternatives 2, 3, 4
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August 2008

City and County of San Francisco

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Engineering Bureau
James Chia
Project Management Bureau
Edgar A. Lopez
Street Use and Mapping Bureau
Barbara L. Moy

29 August 2008

To: Kris Opbroek

Subject: Accessibility review comments regarding the Preliminary Engineering Studies documents dated August 14, 2008, as prepared by Parsons for the San Francisco Transportation Authority.

General Accessibility Comments – All Three Alternatives:

1. The Side Lane BRT is by far the best of the proposed design alternatives for persons with disabilities and pedestrians of all types. Boarding islands are problematic for persons with disabilities, particularly those with hearing and vision loss as well as cognitive disabilities. Wider sidewalks are much more pedestrian friendly and much needed along Van Ness. Wider sidewalk can accommodate much more pedestrian and neighborhood amenities where people need them and will use them. The other alternatives divide the pedestrian realm up into narrow strips that are not nearly as pedestrian friendly and useful. **A-7e-25**
2. Center boarding island alternatives: Interface of boarding islands with crosswalks is difficult and problematic for persons with disabilities. Wayfinding is difficult and pedestrian safety is reduced as compared to side lane BRT alternative. **A-7e-26**
3. Indicate all existing and new accessible on-street parking spaces (blue curb and green curb) and associated adjacent curb ramps at the rear of each space. **A-7e-27**
4. Indicate all on-street existing and new passenger loading spaces (white curb) and associated adjacent curb ramps at the rear of each space. **A-7e-28**
5. Show total on-street parking space quantities for each block face: non-accessible and accessible. **A-7e-29**
6. Wider crosswalks are good for persons with visual disabilities. Wider crosswalks facilitate locating the associated curb ramps in the center of the crosswalk, which aids the wayfinding of persons with visual impairments. **A-7e-30**
7. Provide accessible refuge islands with "thumbnail" or equivalent at all Van Ness crosswalks, at Mission Street and at Market Street transit islands. Widen crosswalks if necessary to achieve this. **A-7e-31**
8. Due to the proposed bulb-outs, this alternative will provide by far the best curb ramps along this corridor. There are locations where sub-sidewalk basements encroach into the street corner area. Providing bulb-outs will minimize and **A-7e-32**

perhaps eliminate conflicts between curb ramps and sub-sidewalk basements, and thereby will minimize the unit costs for curb ramps.

Alternative 2: Side Lane BRT

Sheet A2-1 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Mission Street crosswalk along east side of intersection and at Van Ness crosswalk along north side of Mission Street. Widen crosswalk if necessary. **A-7e-33**
2. Provide accessible refuge island with "thumbnail" or equivalent at Van Ness crosswalk along north side of Market Street. Widen crosswalk if necessary. **A-7e-34**

Sheet A2-2 Alternative 2: Side Lane BRT

1. Provide accessible refuge island with "thumbnail" or equivalent at Van Ness crosswalk along south side of Hayes Street. Widen crosswalk if necessary. **A-7e-35**

Sheet A2-5 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along north side of Bush Street. Widen crosswalk if necessary. **A-7e-36**

Sheet A2-6 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along south side of Pine Street. Widen crosswalk if necessary. **A-7e-37**
2. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along south side of Sacramento Street. Widen crosswalk if necessary. **A-7e-38**

Sheet A2-7 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along north side of Clay Street. Widen crosswalk if necessary. **A-7e-39**
2. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Washington Street. Widen crosswalks if necessary. **A-7e-40**
3. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Jackson Street. Widen crosswalks if necessary. **A-7e-41**
4. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Pacific Avenue. Widen crosswalks if necessary. **A-7e-42**

Sheet A2-8 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along Broadway. Widen crosswalk if necessary. **A-7e-43**

2. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Vallejo Street. Widen crosswalks if necessary. A-7e-44
3. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Green Street. Widen crosswalks if necessary. A-7e-45
4. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Union Street. Widen crosswalks if necessary. A-7e-46

Sheet A2-9 Alternative 2: Side Lane BRT

1. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalk along Filbert Street. Widen crosswalk if necessary. A-7e-47
2. Provide accessible refuge islands with "thumbnail" or equivalent at Van Ness crosswalks along Greenwich Street. Widen crosswalks if necessary. A-7e-48
3. Provide straight-line crosswalk from street corner to street corner at the Van Ness crosswalk along the south side of Lombard Street. Provide straight-line crosswalk from street corner to street corner at the Lombard crosswalk along the west side of Van Ness Avenue. Widen crosswalks if necessary. Provide accessible refuge island with "thumbnail" or equivalent at the Van Ness crosswalk along the north side of Lombard Street. Align associated curb ramps with direction of crosswalk. A-7e-49

Alternative 3: Center Lanes with Side Median BRT

General Alt. 3 General Comments:

1. Island platforms that are only 8 feet wide do not provide sufficient width at the crosswalks to install detectable warning material to define traffic and BRT lanes. At least 9 feet (preferably at least 10 feet) from curb face to curb face is necessary in order to provide detectable warnings. Without detectable warnings at such hazardous vehicular traffic locations persons with disabilities will be at a distinct disadvantage with respect to safety and wayfinding. A-7e-50
2. There is no possibility of providing pedestrian refuge islands at the block bounded by Fell and Hayes Streets, at the southern crosswalk at Turk Street, at the Greenwich Street intersection and the south side of the Lombard Street intersection. These are all long crosswalks and persons with disabilities will need refuge areas at all Van Ness Avenue crosswalks due to lower walking speed and stamina issues. A-7e-51
3. Of the three alternatives presented, this one provides the least accessibility and the most numerous potential problems for persons with disabilities. A-7e-52
4. This alternative is a very poor fit with the available overall right of way width. It divides the pedestrian realms up into slivers of space that cannot accommodate pedestrian and neighborhood amenities in the way that wide sidewalks can. A-7e-53
5. Due to the reduced number of proposed bulb-outs, this alternative will make it difficult to provide the required curb ramps along this corridor. There are locations where sub-sidewalk basements encroach into the street corner area. Constructing curb ramps over sub-sidewalk basements will significantly increase the unit costs for curb ramps. A-7e-54

Sheet A3-9 Alternative 3: Center Lanes with Side Median BRT

1. Provide straight-line crosswalk from street corner to street corner at the Van Ness crosswalk along the south side of Lombard Street. Provide straight-line crosswalk from street corner to street corner at the Lombard crosswalk along the west side of Van Ness Avenue. Widen crosswalks if necessary. Provide accessible refuge island with "thumbnail" or equivalent at the Van Ness crosswalk along the north side of Lombard Street. Align associated curb ramps with direction of crosswalk. A-7e-55

Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

General Alt. 4 General Comments:

1. This alternative is also a comparatively poor fit with the available overall right of way width. It divides the pedestrian realms up into slivers of space that cannot accommodate pedestrian and neighborhood amenities in the way that wide sidewalks can. A-7e-56
2. Due to the greatly reduced number of proposed bulb-outs, this alternative will make it very difficult to provide the required curb ramps along this corridor. There are locations where sub-sidewalk basements encroach into the street corner area. Constructing curb ramps over sub-sidewalk basements will significantly increase the unit costs for curb ramps. A-7e-57
3.

Sheet A4-2 Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

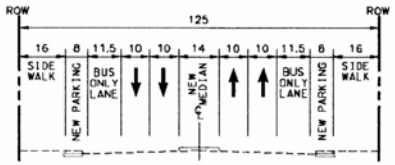
1. Provide accessible refuge island with "thumbnail" or equivalent at Van Ness crosswalk along south side of Hayes Street. Offset traffic & BRT lanes and widen crosswalk as necessary. A-7e-58

Sheet A4-9 Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

1. Provide straight-line crosswalk from street corner to street corner at the Van Ness crosswalk along the south side of Lombard Street. Provide straight-line crosswalk from street corner to street corner at the Lombard crosswalk along the west side of Van Ness Avenue. Offset traffic and/or BRT lanes and widen crosswalks as necessary. Provide accessible refuge island with "thumbnail" or equivalent at the Van Ness crosswalk along the north side of Lombard Street. Align associated curb ramps with direction of crosswalk. A-7e-59

End of Document

ALT 2



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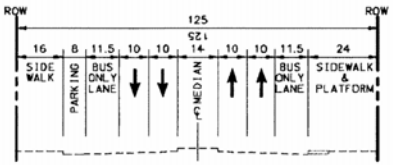

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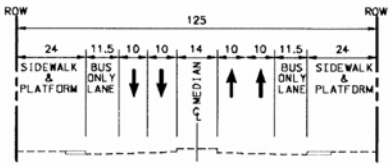

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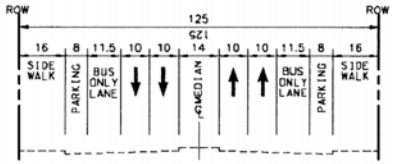

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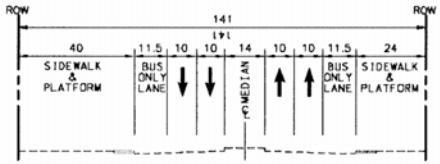

ALT 2 SECTION 4
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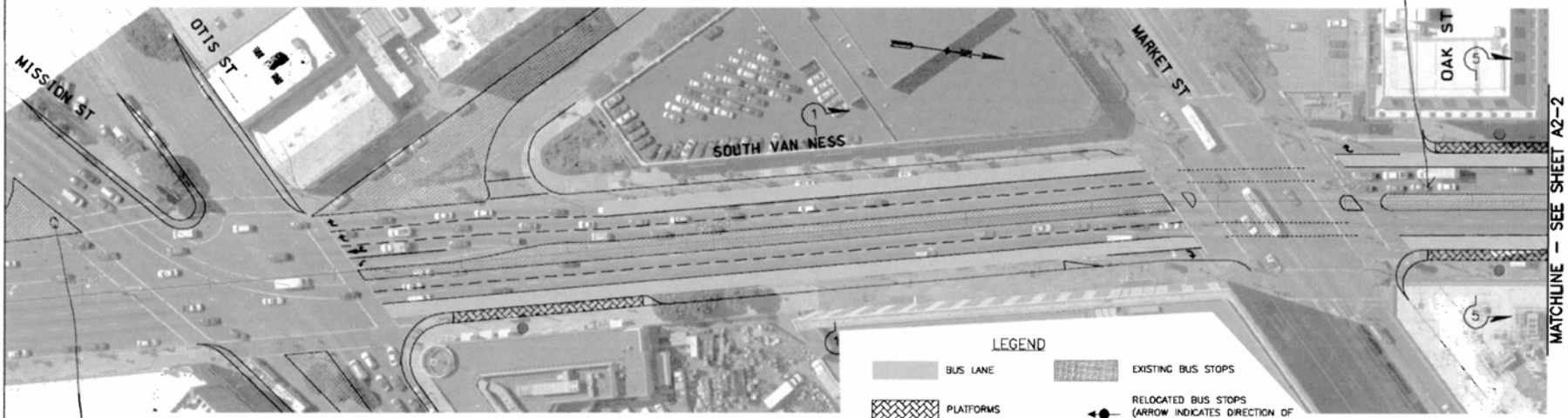
CISTERN - F/I BRICK
CISTERN OUTLINE



PLAN
SCALE: 1"=40'

HP HYDRANT IN LANDSCAPED AREA
WOULD REQUIRE 10'x10' CONCRETE PAD

M. SMITH DPW/BOE/EME 08/29/08 415 558-4536

GENERAL - ALL AWSS GATE VALVES, AIR VALVES, AND CISTERN COVERS AND FRAMES IN BUS LANES TO BE BROUGHT TO GRADE. ANY FRAMES AND COVERS IN MEDIANS/PLANTING AREAS SHALL REQUIRE GATE VALVES TO BE RELOCATED.

NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

SUPERCEDES STR-5458.2 REV "A"

DESIGNED: DATE: EL 7/08
DRAWN: DATE: AM 7/08
CHECKED: DATE: KF 7/08

APPROVED
SECTION ENGINEER DATE:
DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:

SCALE: 1"=40'
SHEET OF SHEETS 1 OF 10

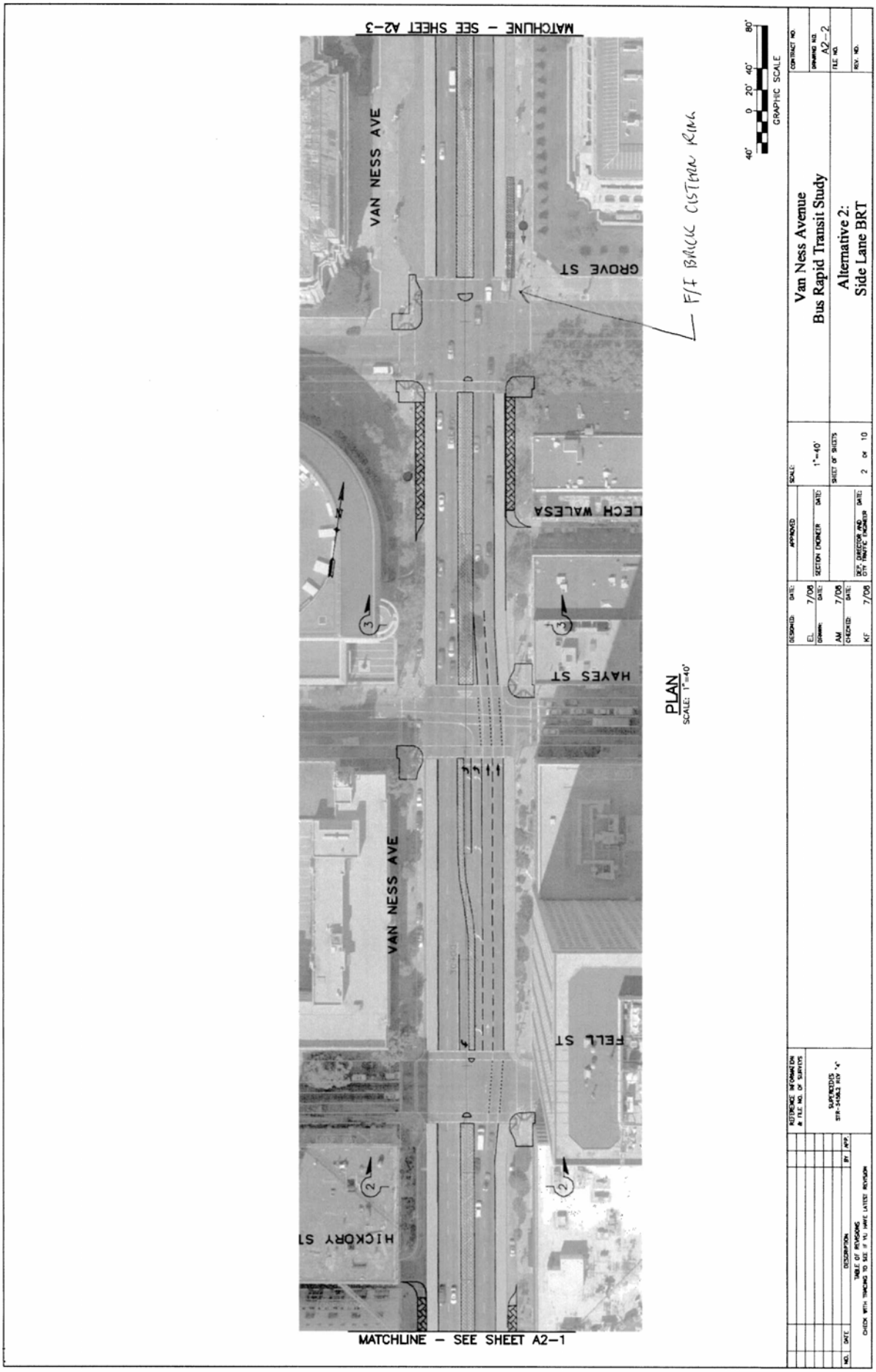
Van Ness Avenue
Bus Rapid Transit Study

Alternative 2:
Side Lane BRT

CONTRACT NO.
DRAWING NO. A2-1
FILE NO.
REV. NO.

MS 08/28/08

A-7e-60
continued



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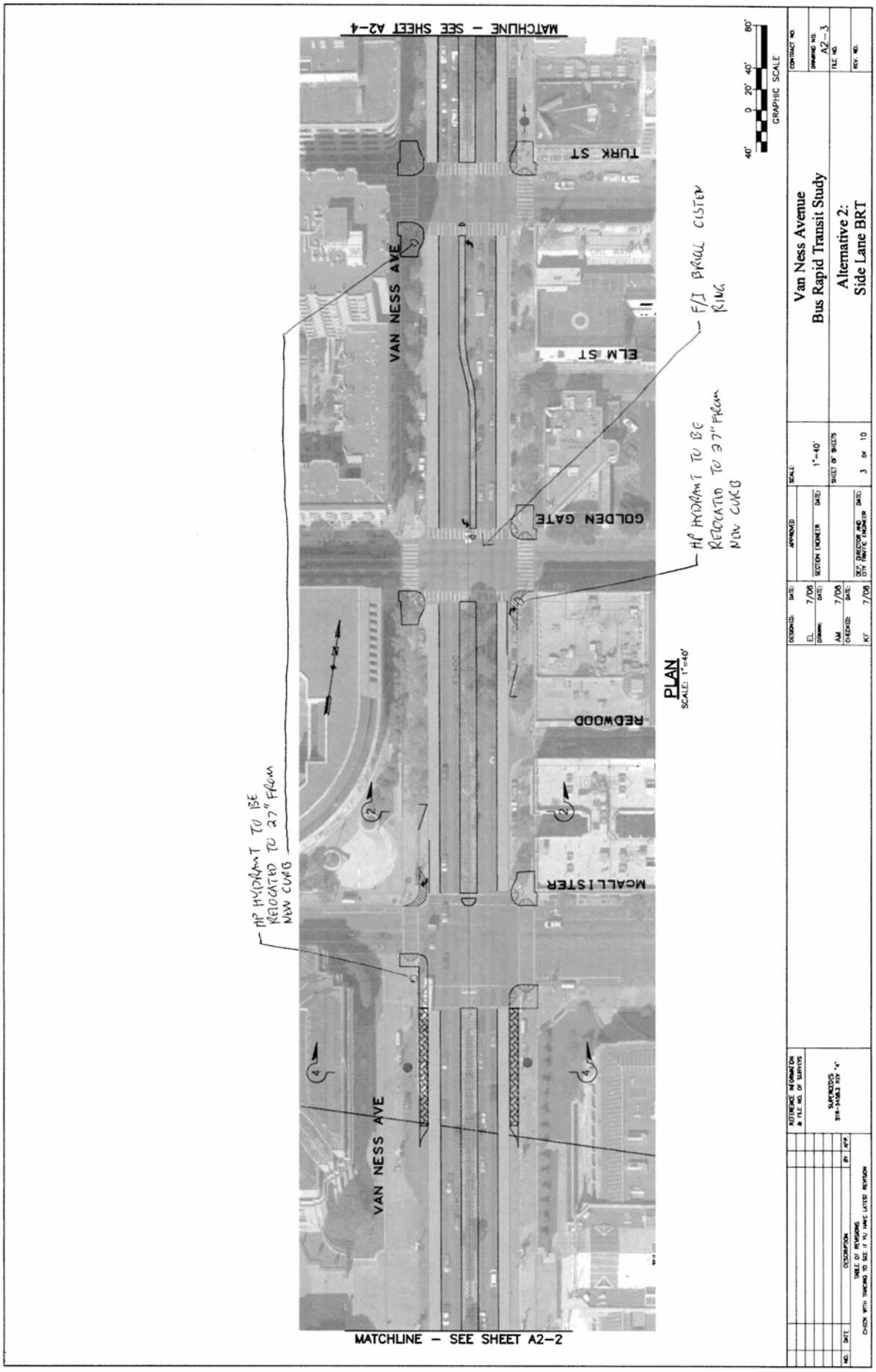

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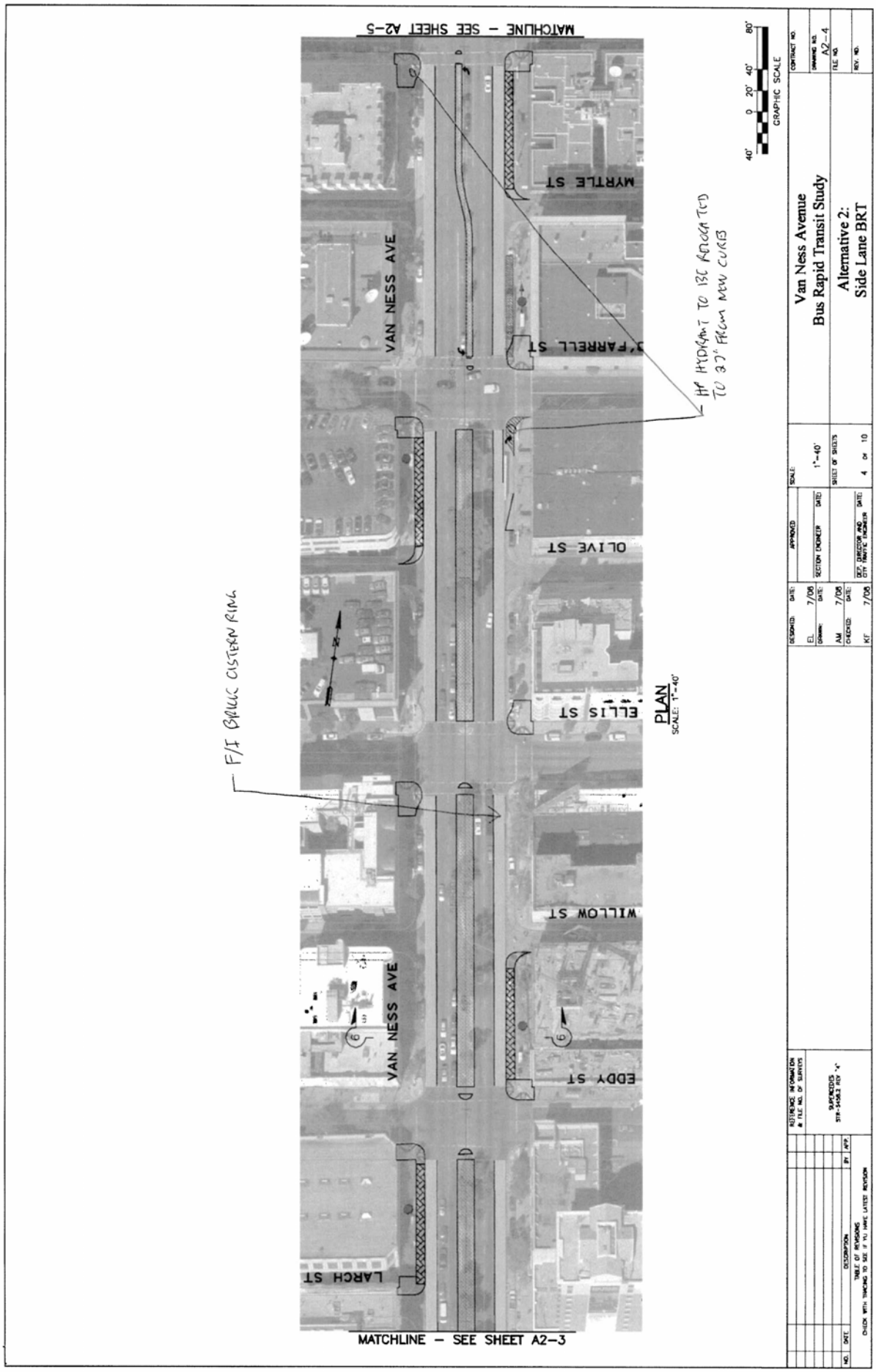

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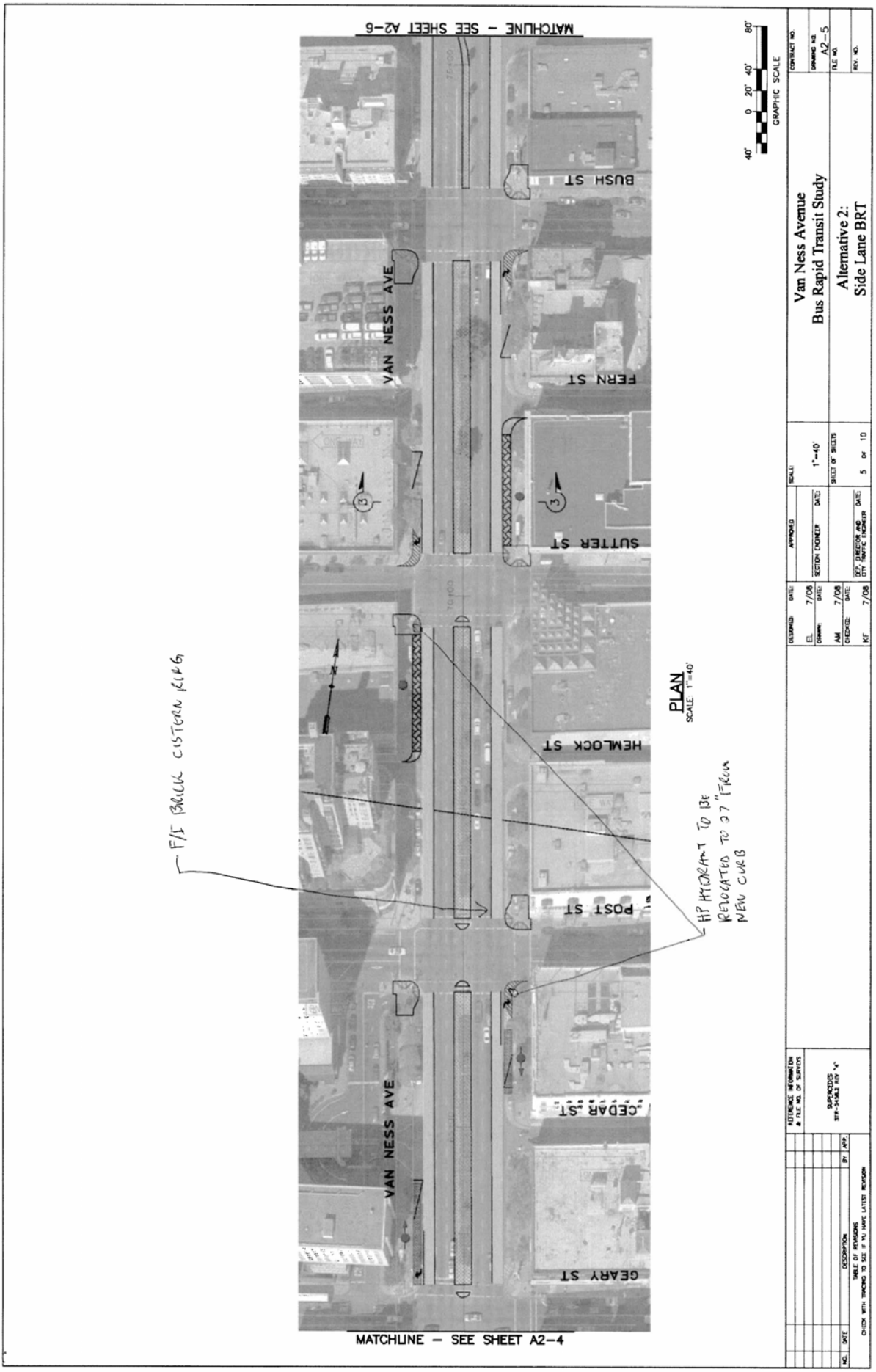

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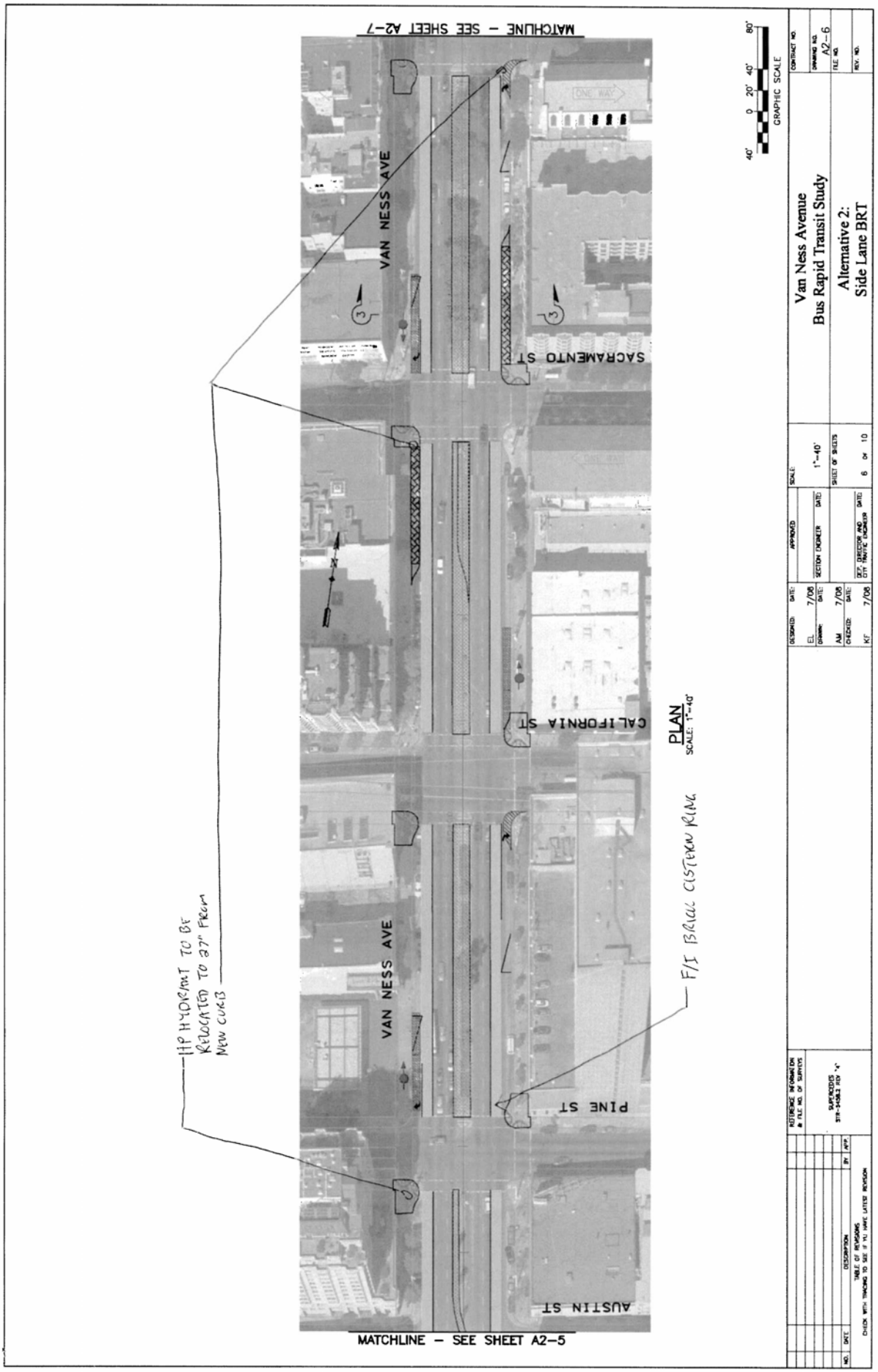

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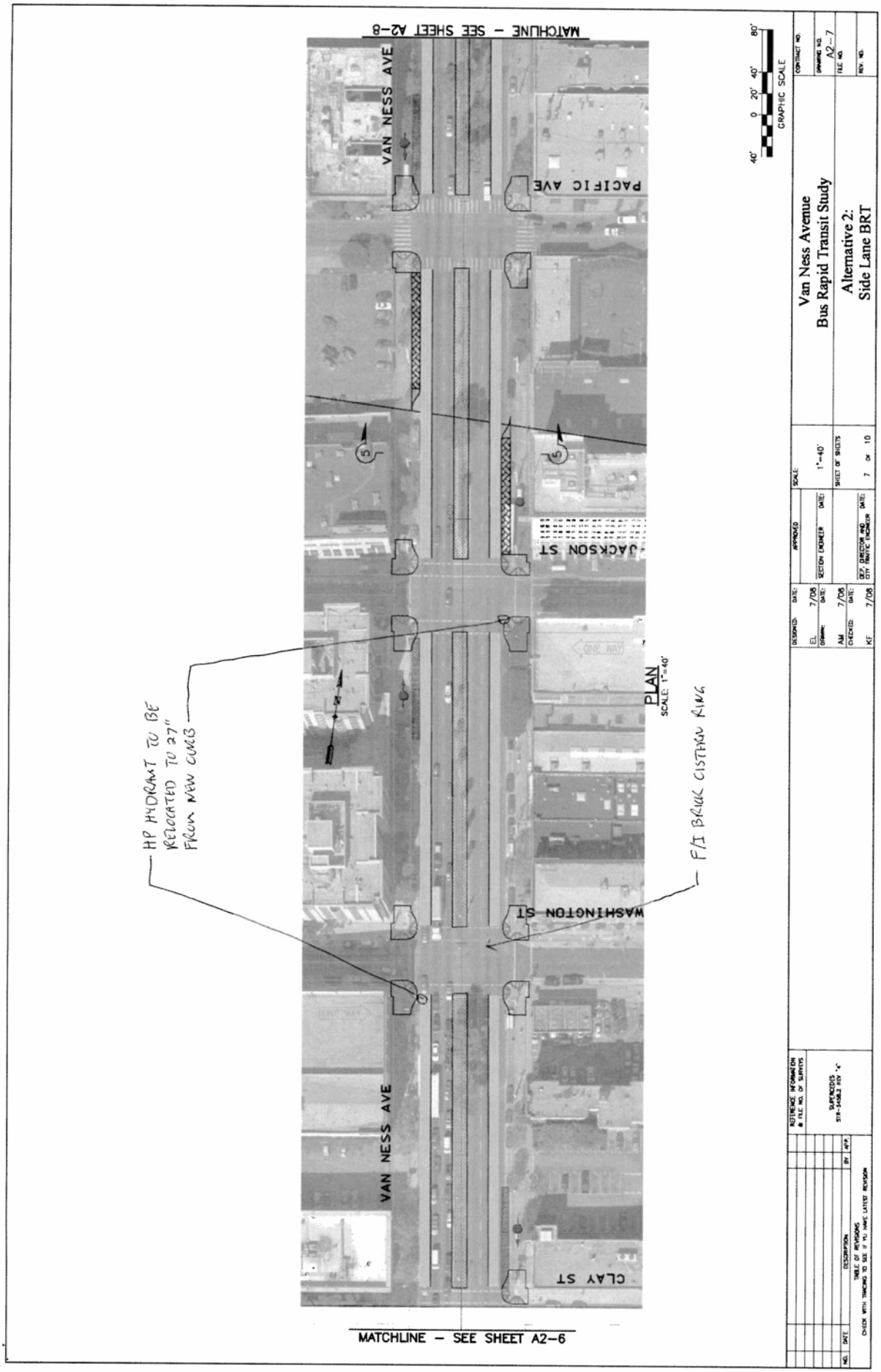

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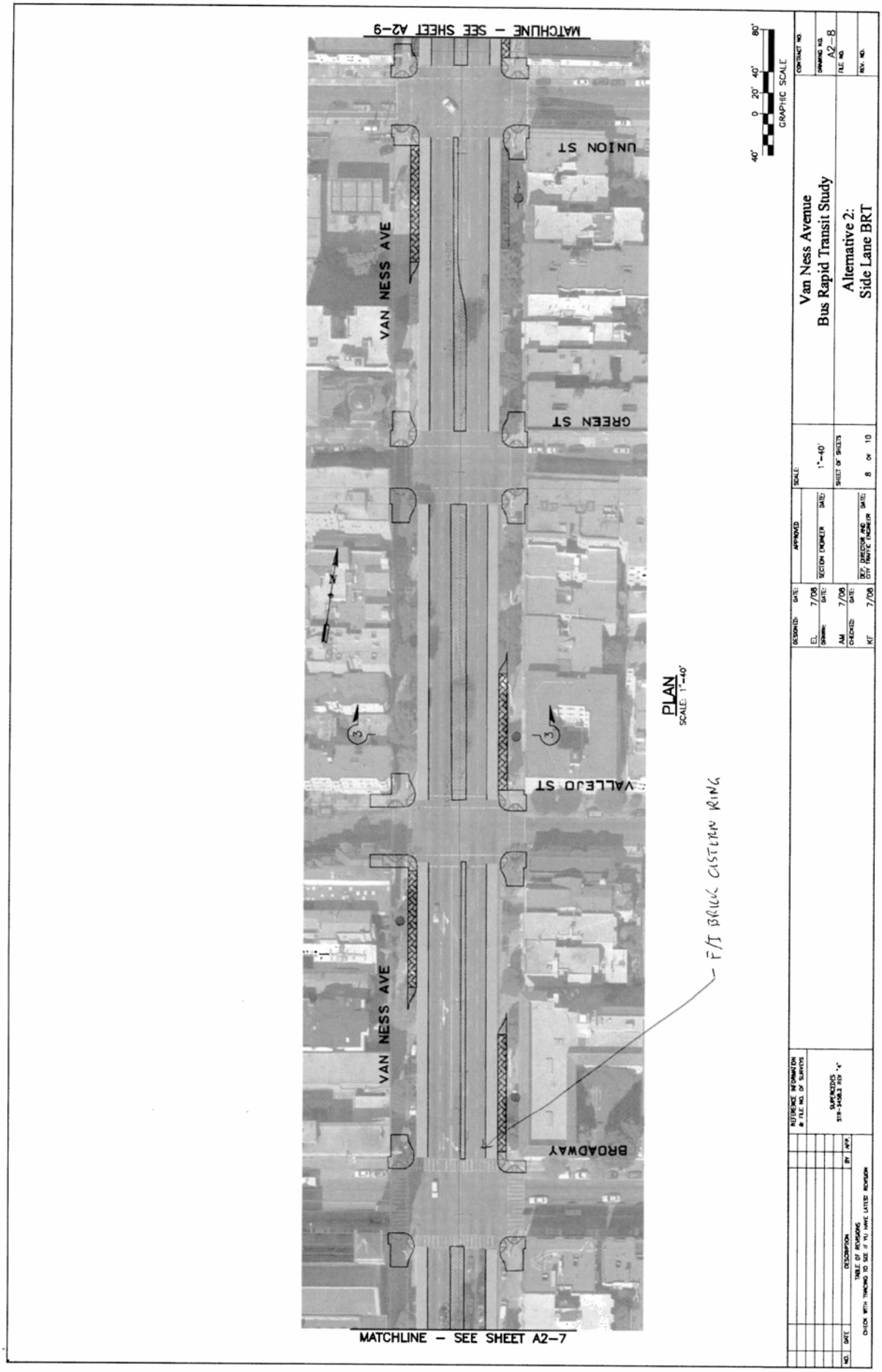
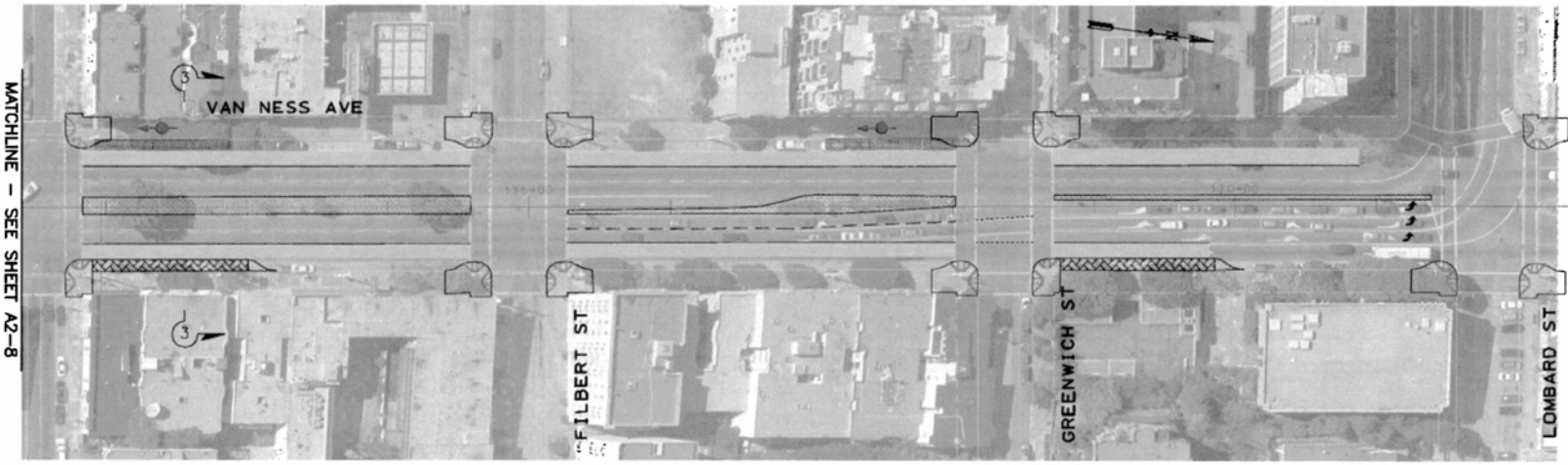


AP HYDRANT TO BE
RELOCATED TO 37" FROM
NEW CURB



PLAN
SCALE: 1"=40'

40' 0 20' 40' 80'
GRAPHIC SCALE

NO.	DATE	DESCRIPTION	BY	APP.	REFERENCE INFORMATION & FILE NO. OF SURVEYS	DESIGNED: EL 7/08	APPROVED	SCALE: 1"=40'
						DRAWN: AM 7/08	SECTION ENGINEER DATE:	
					SUPERCEDES STR-5456.3 REV "4"	CHECKED: KF 7/08	DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:	SHEET OF SHEETS 9 OF 10

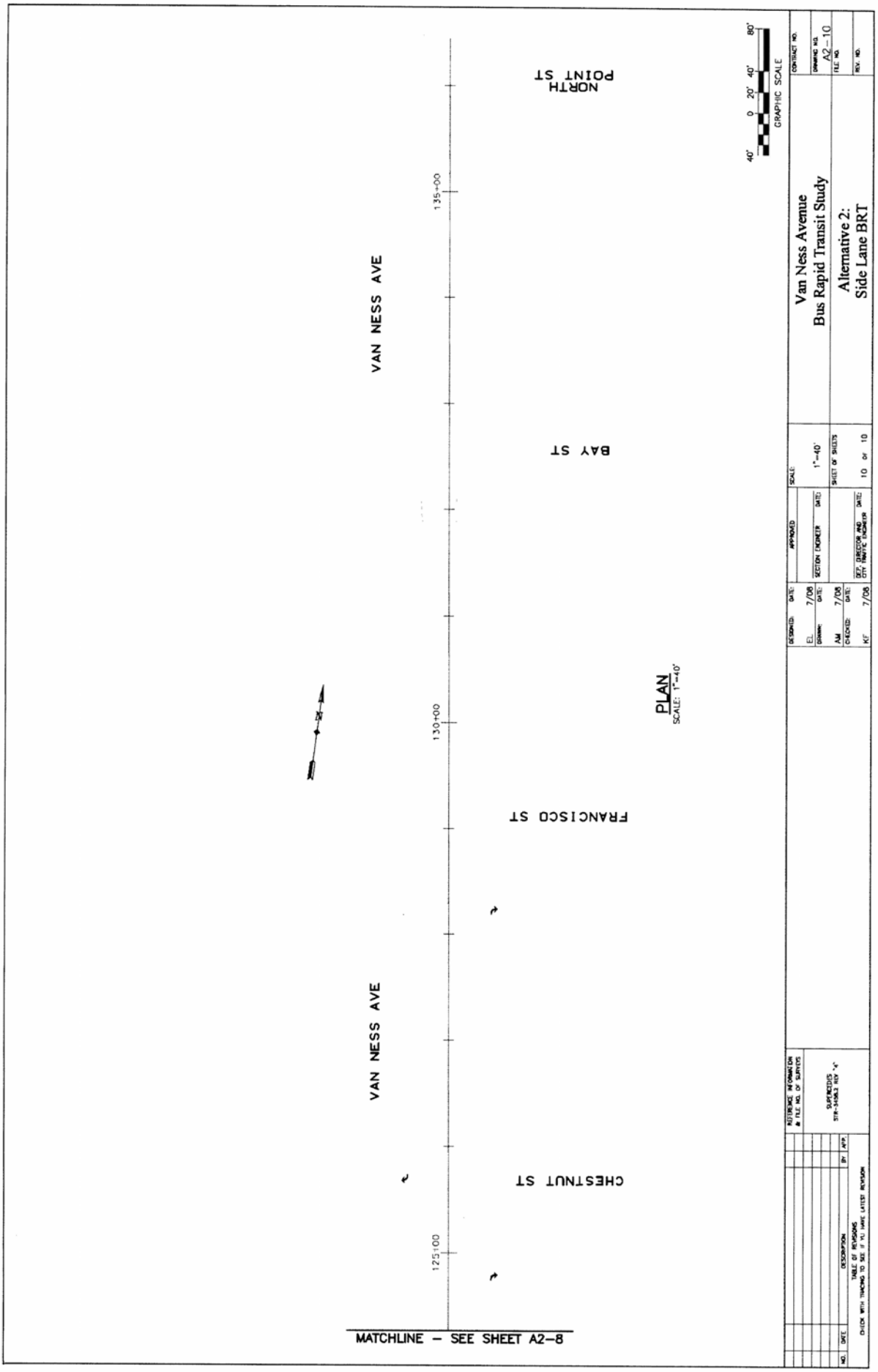
TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YU HAVE LATEST REVISION

Van Ness Avenue
Bus Rapid Transit Study

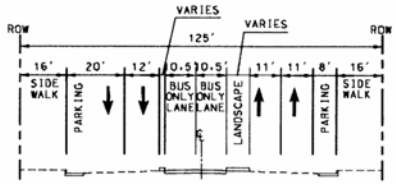
Alternative 2:
Side Lane BRT

CONTRACT NO.
DRAWING NO. A2–9
FILE NO.
REV. NO.

A-7e-60
continued



ALT 3



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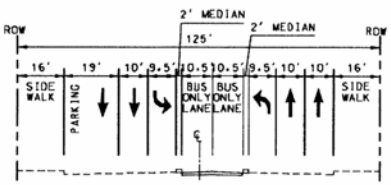

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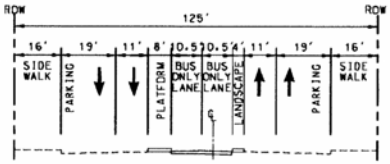

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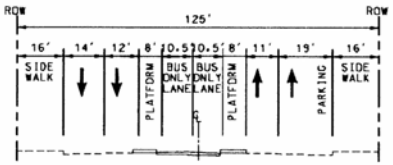

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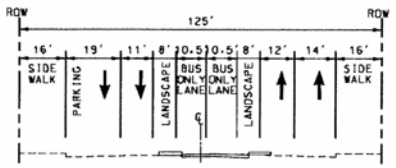

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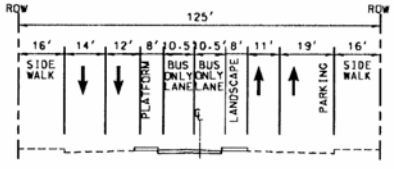
SCALE: 1"=20'



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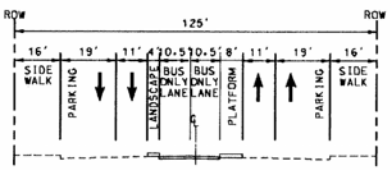
SCALE: 1"=20'



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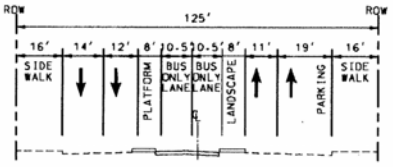
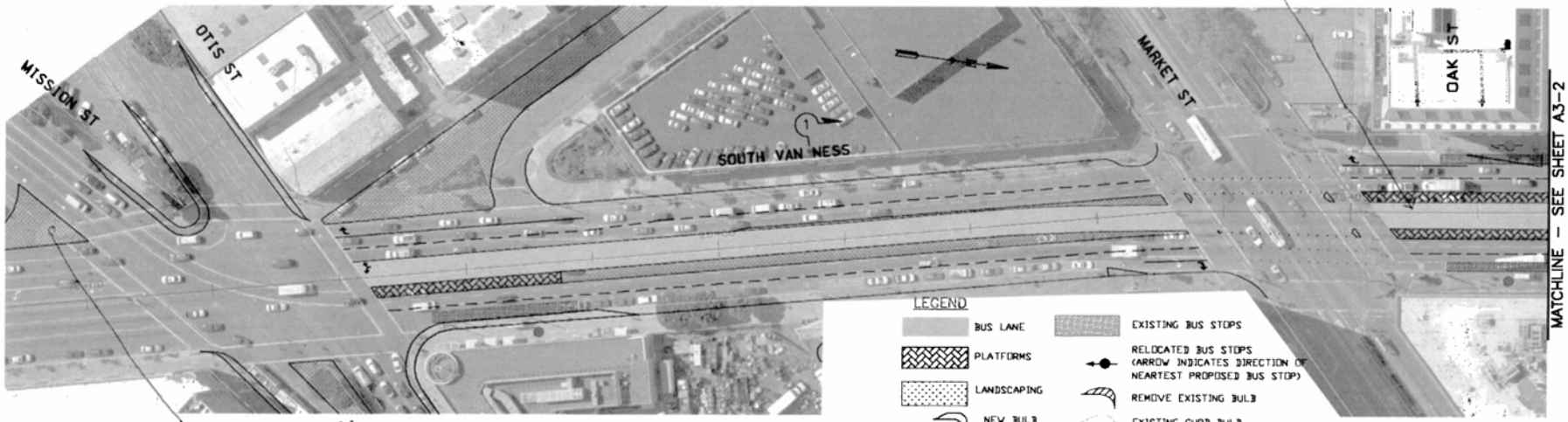
SCALE: 1"=20'



ALT 3 SECTION 8
SCALE: 1"=20'

F/I BRICK CISTERN OUTLINE
RAISE CISTERN COVERS



NOTE:
1. SEE SHEET A3-2 FOR ADDITIONAL SECTIONS

IF IRRIGATION IN LANDSCAPED AREA WOULD REQUIRE 10'x10' CONCRETE PAD

PLAN
SCALE: 1"=40'

M. SMITH DPW/BOE/LMME
08/29/08 415 558-4536

NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

SUPERCEDES SIR-5458.2 REV "4"

GENERAL - ALL AWSS GATE VALVE, AIR VALVE, AND CISTERN COVERS AND FRAMES IN BUS LANES TO BE BROUGHT TO GRADE. ANY FRAMES AND COVERS IN MEDIANS/PLANTING AREAS SHALL REQUIRE GATE VALVES TO BE RELOCATED.

DESIGNED:	DATE:	APPROVED	SCALE:
EL	7/08	SECTION ENGINEER DATE:	1"=40'
DRAWN:	DATE:		
EL	7/08		SHEET OF SHEETS
CHECKED:	DATE:		1 OF 10
KF	7/08	DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:	

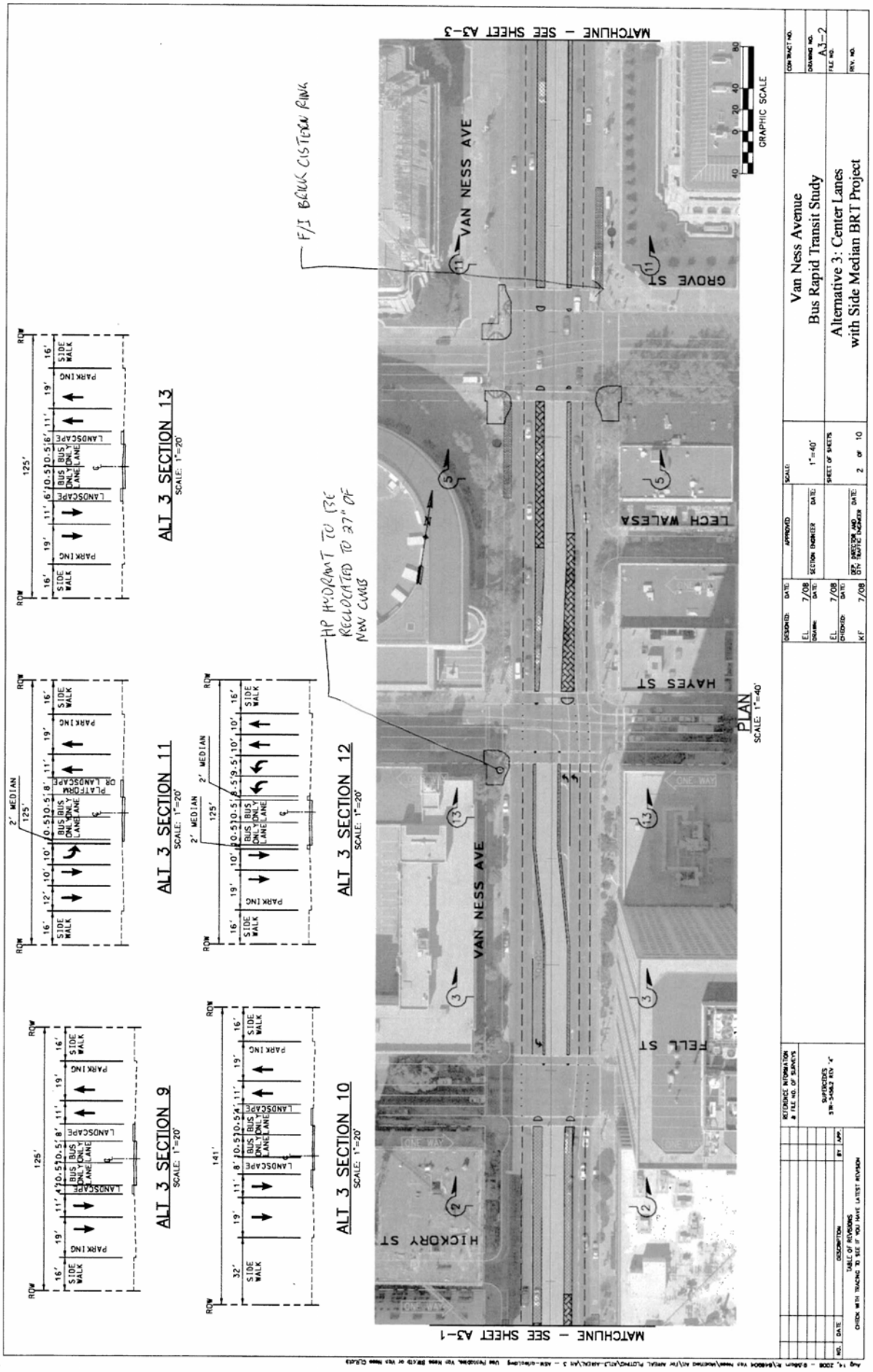
Van Ness Avenue
Bus Rapid Transit Study

Alternative 3: Center Lanes with Side Median BRT Project

CONTRACT NO.
DRAWING NO. A3-1
FILE NO.
REV. NO.

MBS 08/29/08

A-7e-60
continued



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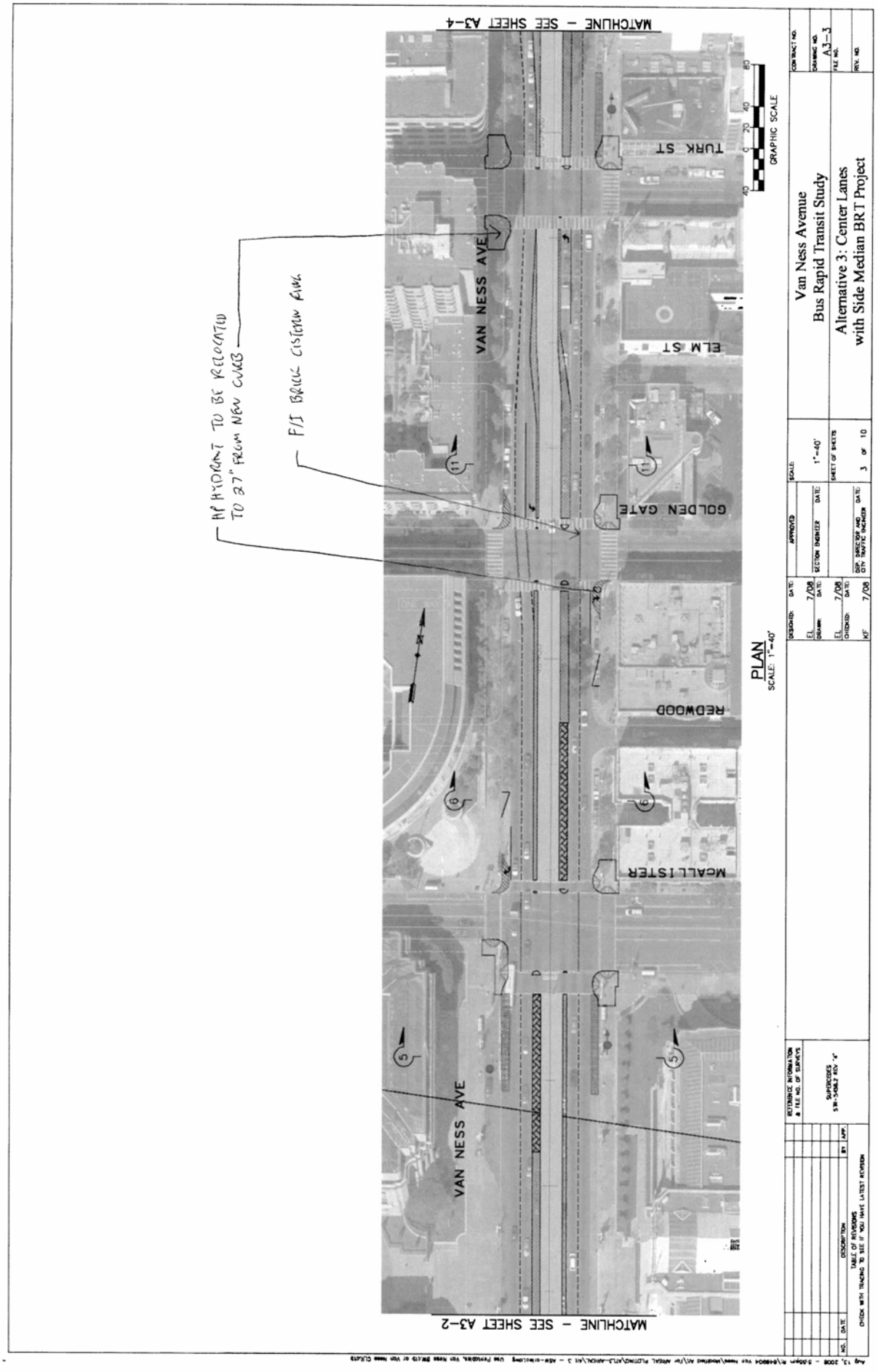

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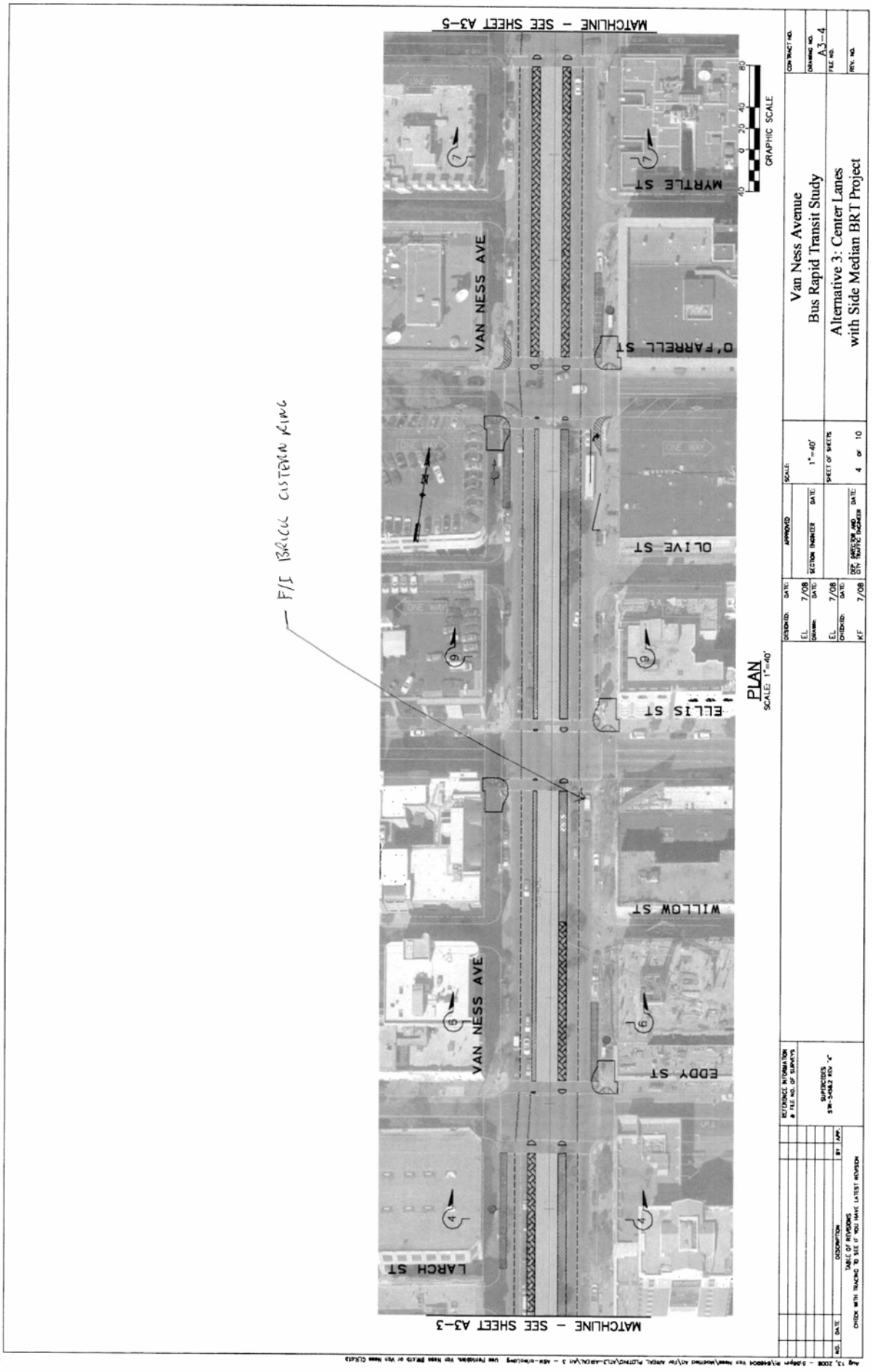

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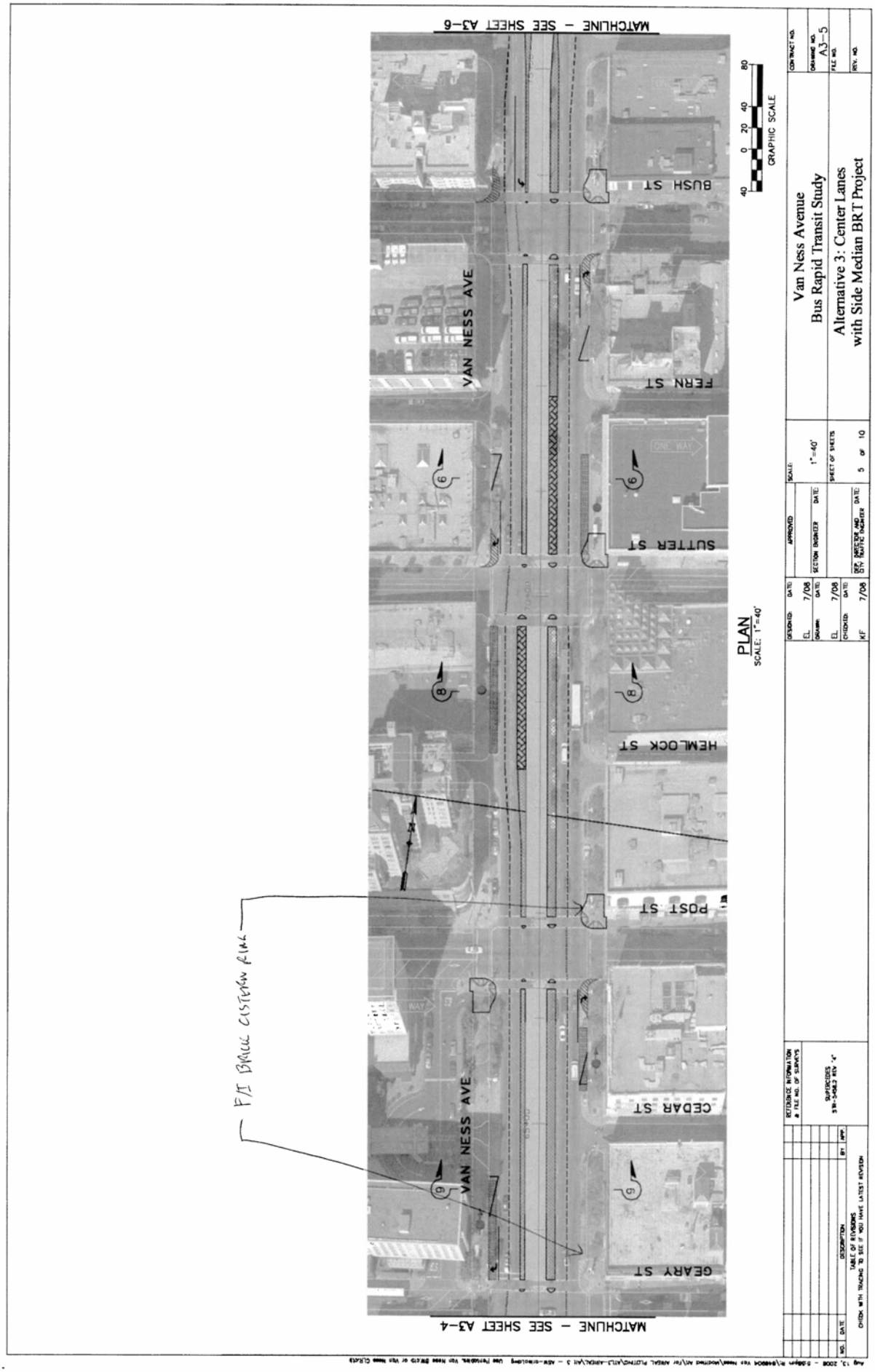

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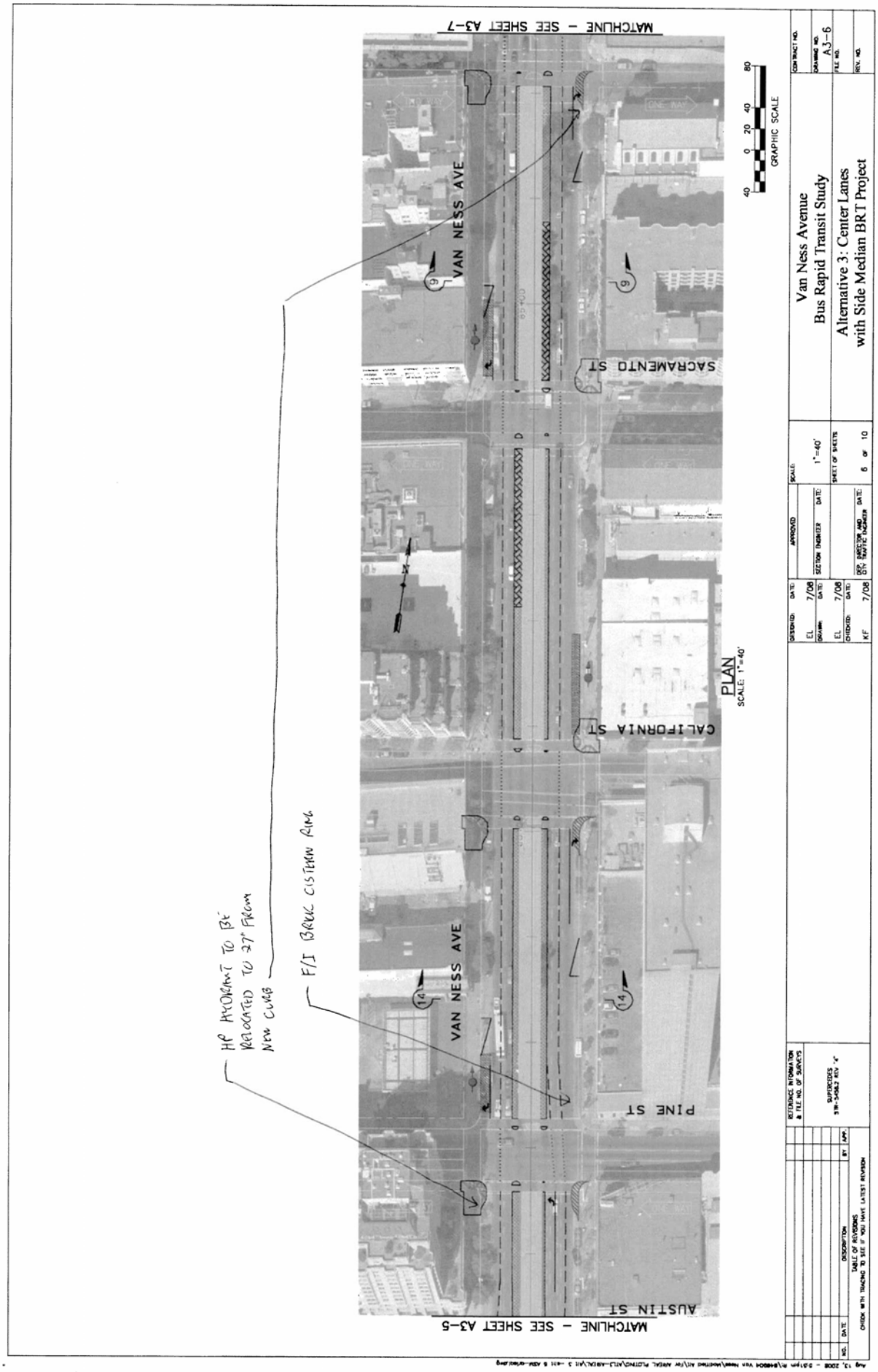

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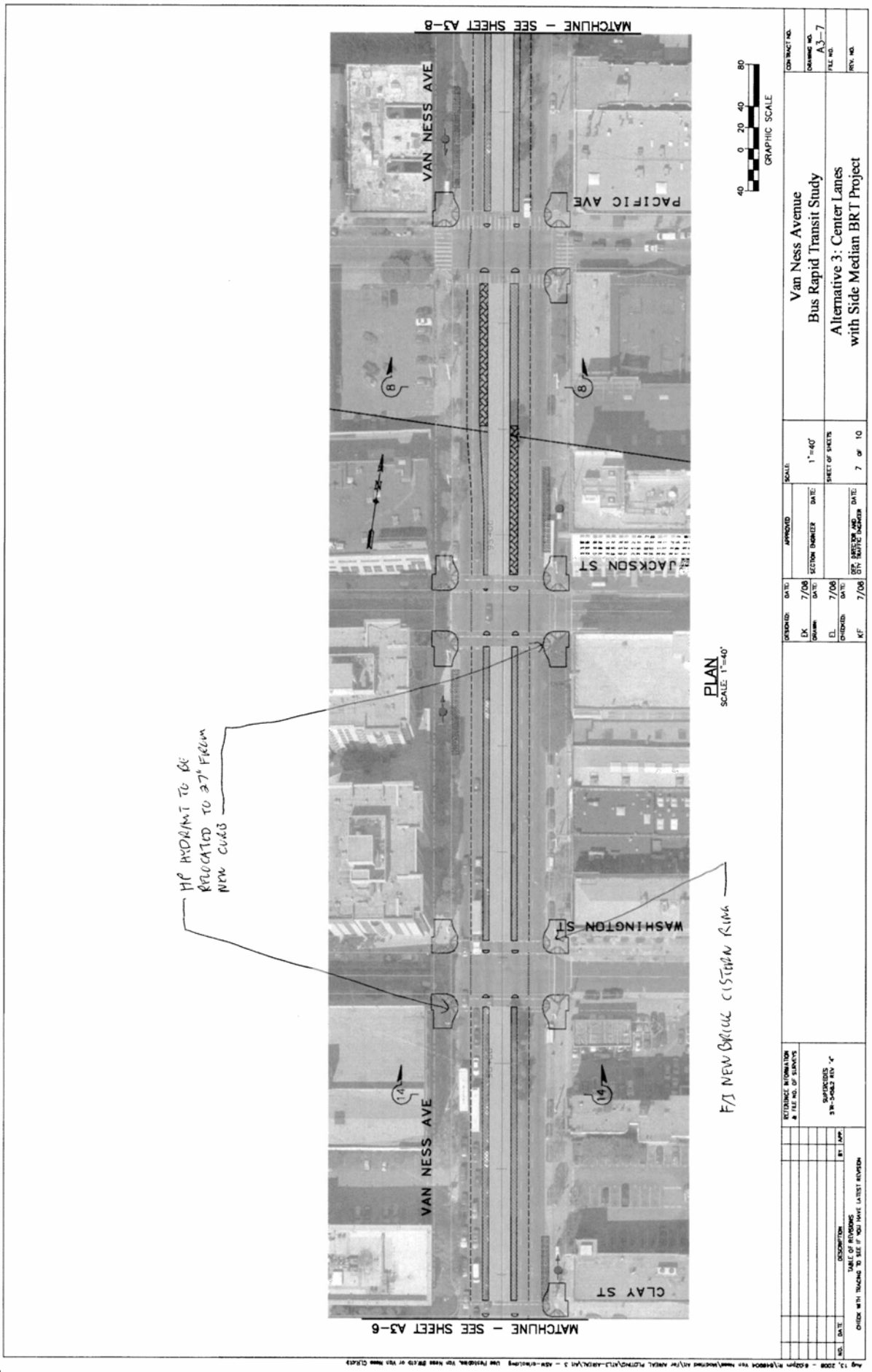

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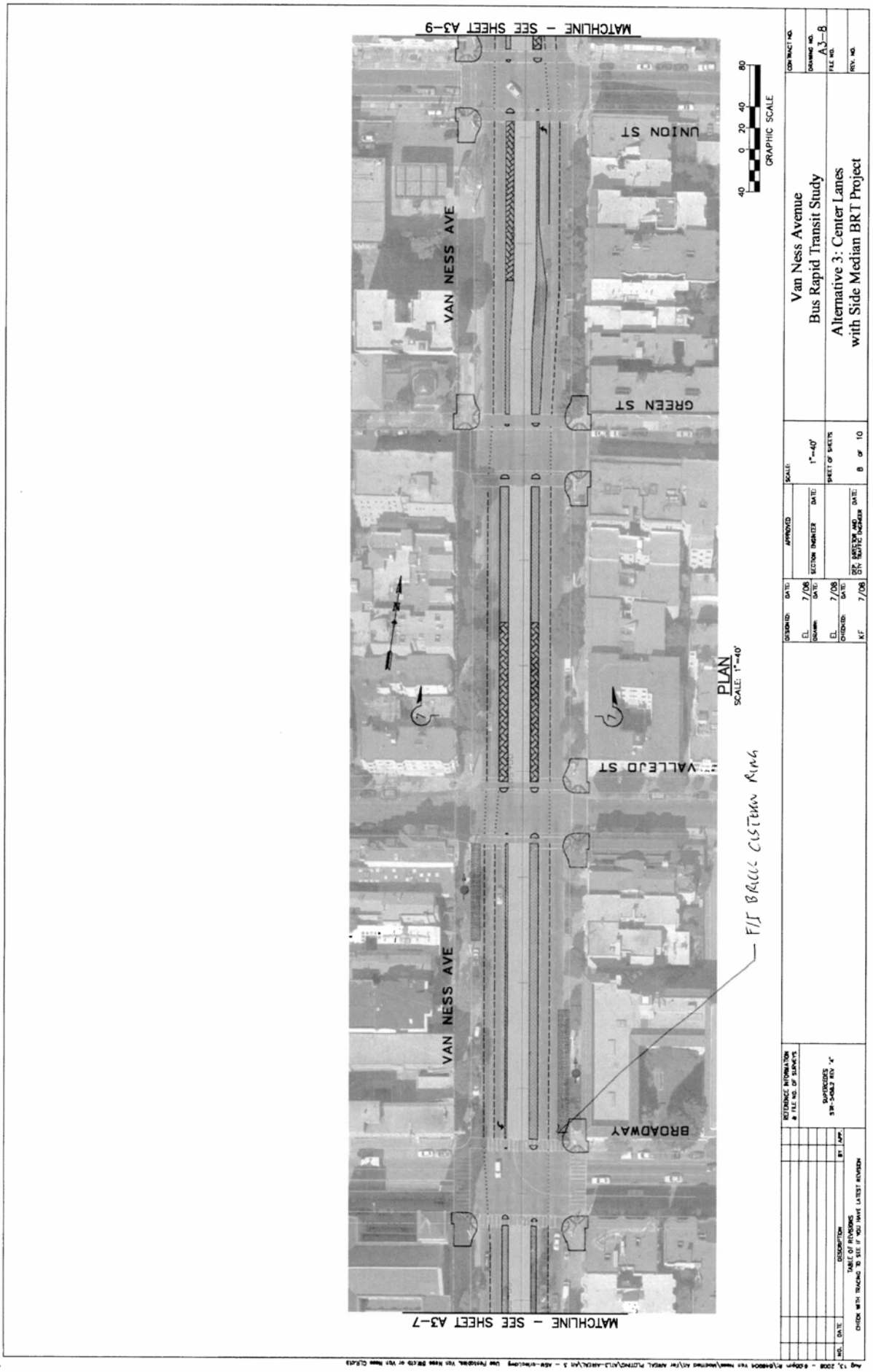

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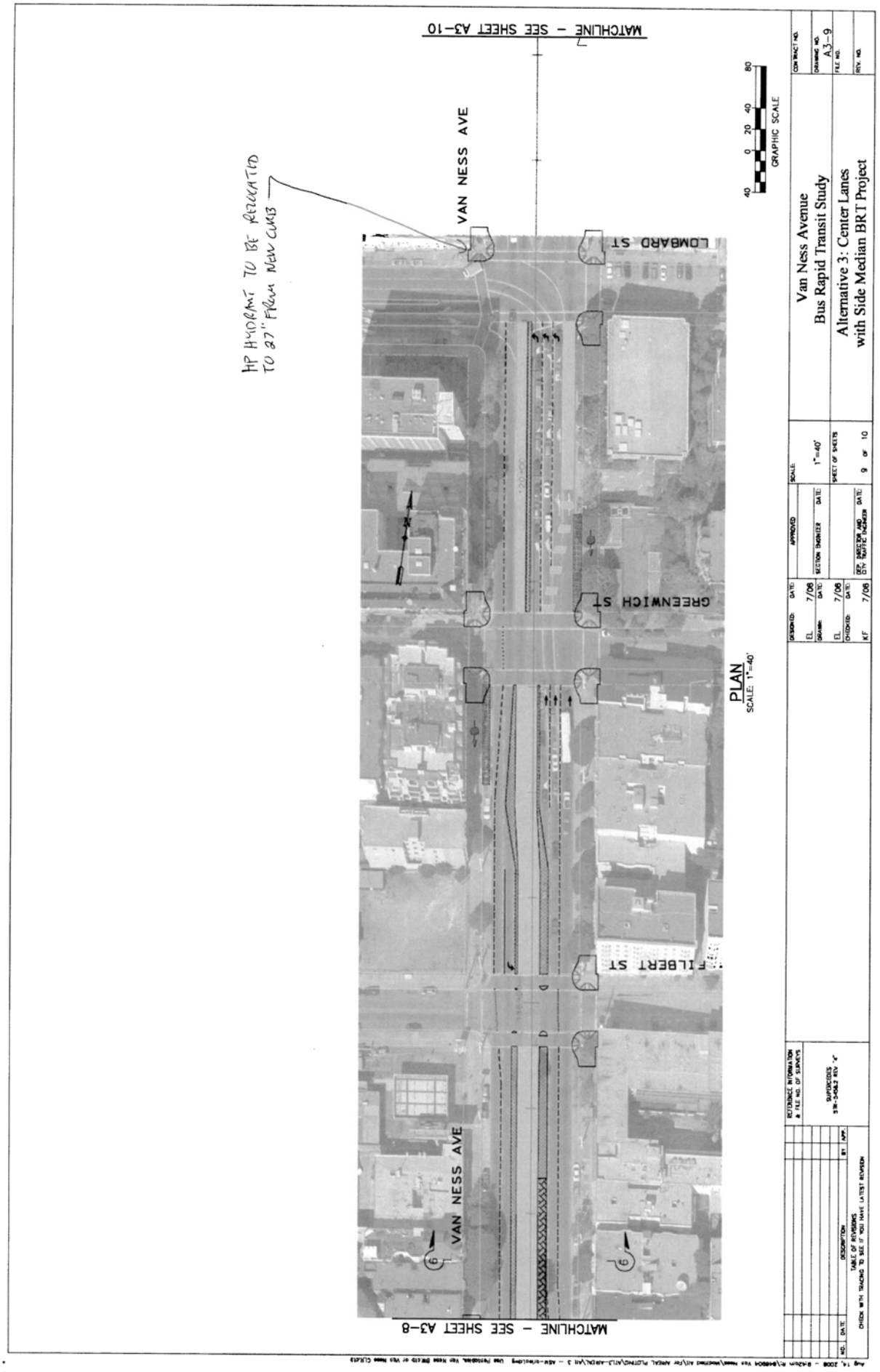

Agencies Pg. 90

A-7e-60
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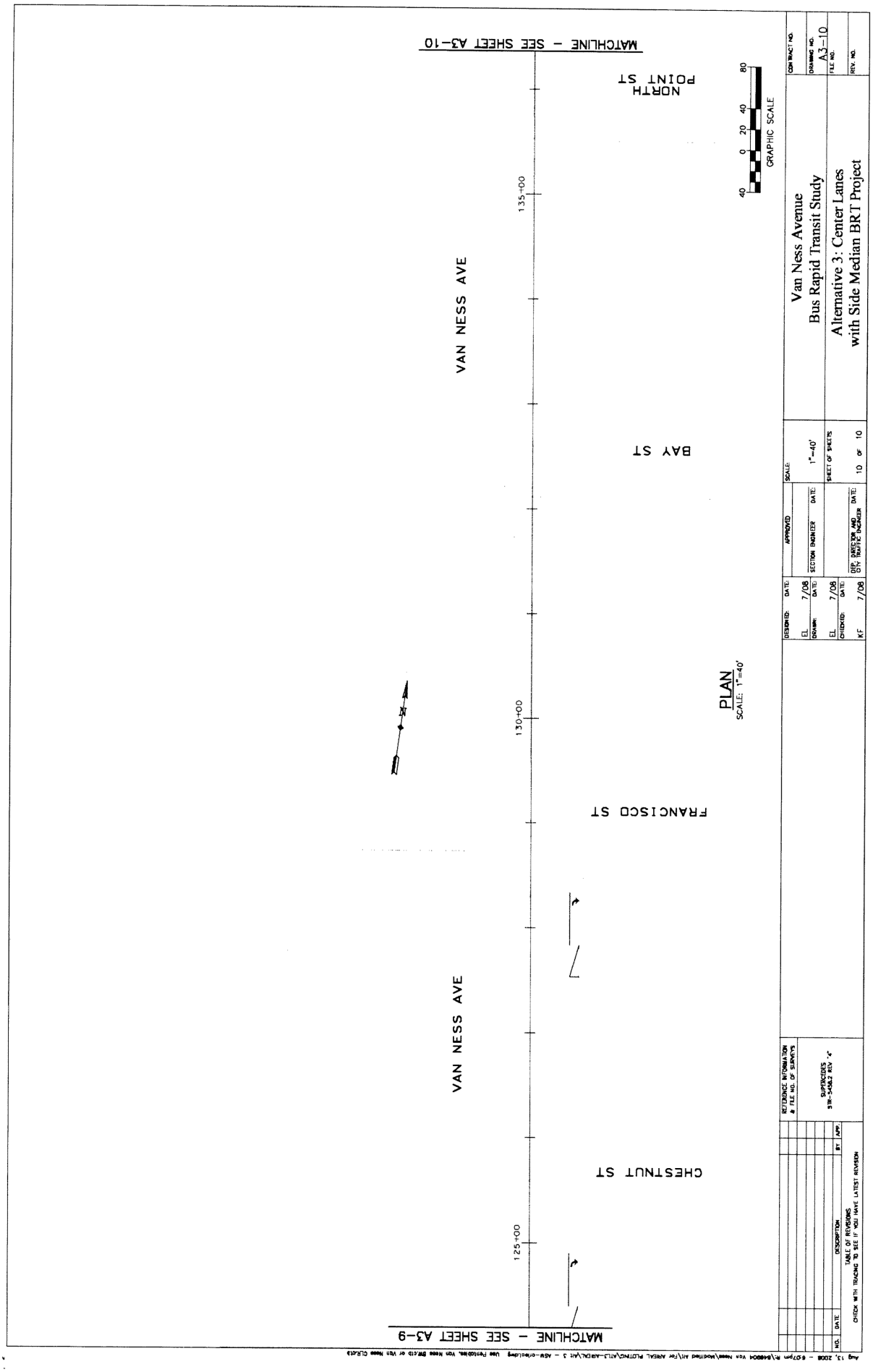

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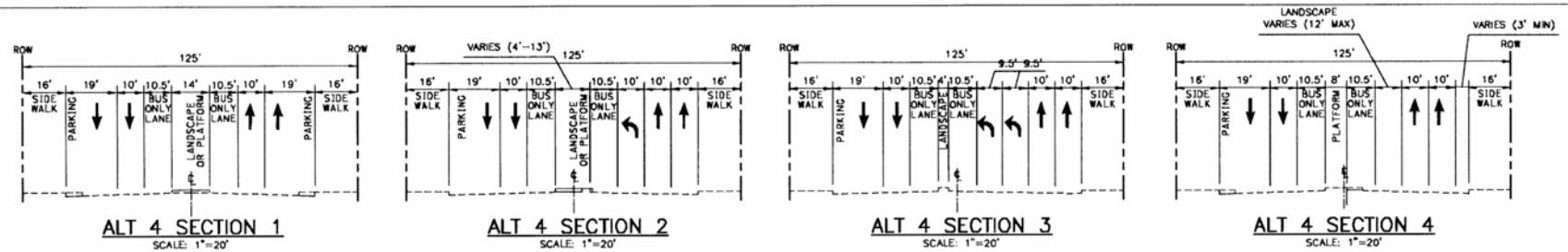


ALT 4 SECTION 1
SCALE: 1"=20'

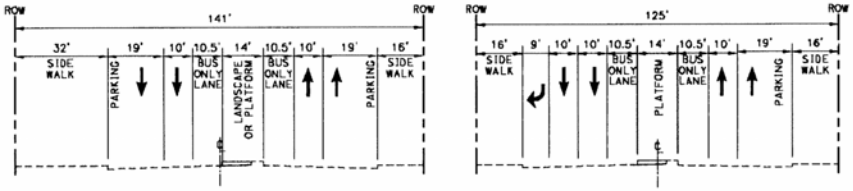
ALT 4 SECTION 2
SCALE: 1"=20'

ALT 4 SECTION 3
SCALE: 1"=20'

ALT 4 SECTION 4
SCALE: 1"=20'

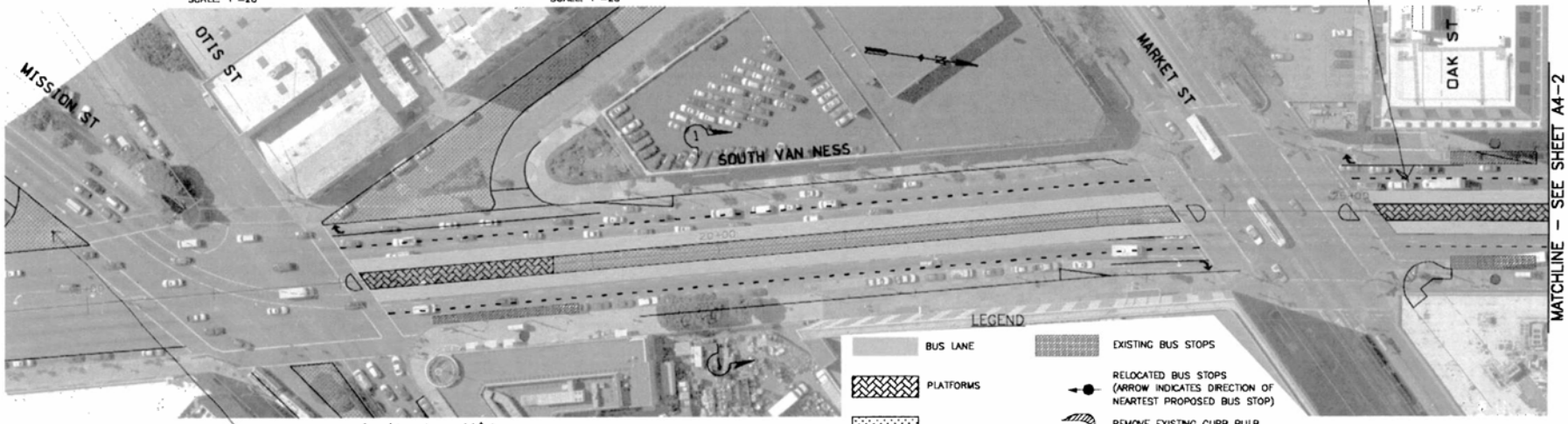
M. SMITH DPW/BOE/BME
08/29/08 415 558-4536

F/I BRICK CISTERN RING



ALT 4 SECTION 5
SCALE: 1"=20'

ALT 4 SECTION 6
SCALE: 1"=20'



NOTE:
1. SEE SHEET A4-2 FOR ADDITIONAL SECTIONS

HP HYDRANT IN LANDSCAPED AREA WOULD REQUIRE 10'x10' CONCRETE PAD

PLAN
SCALE: 1"=40'

GENERAL - ALL AWSS GATE VALVES, AIR VALVES, AND CISTERN COVERS AND FRAMES IN BUS LANES TO BE BROUGHT TO GRADE. ANY FRAMES AND COVERS IN MEDIANS/PLANTING AREAS SHALL ~~BE~~ REQUIRE GATE VALVES TO BE RELOCATED.

NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

SUPERCEDES SH-3404.2 REV "4"

DESIGNED:	DATE:	
LAM	10/07	
DRAWN:	DATE:	
AK	6/08	
CHECKED:	DATE:	
KF	7/08	

APPROVED
SECTION ENGINEER DATE:
DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:

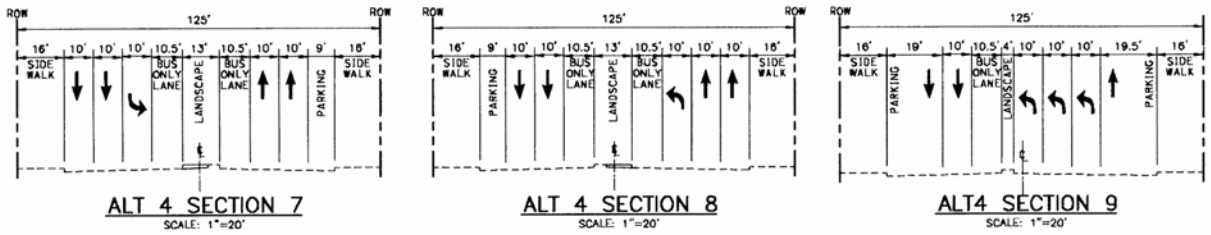
SCALE: 1"=40'
SHEET OF SHEETS
1 OF 10

Van Ness Avenue
Bus Rapid Transit Study

Alternative 4: Center Lane BRT
With Left Side Loading/Center Median

CONTRACT NO.
DRAWING NO. A4-1
FILE NO.
REV. NO.

MB 08/29/08

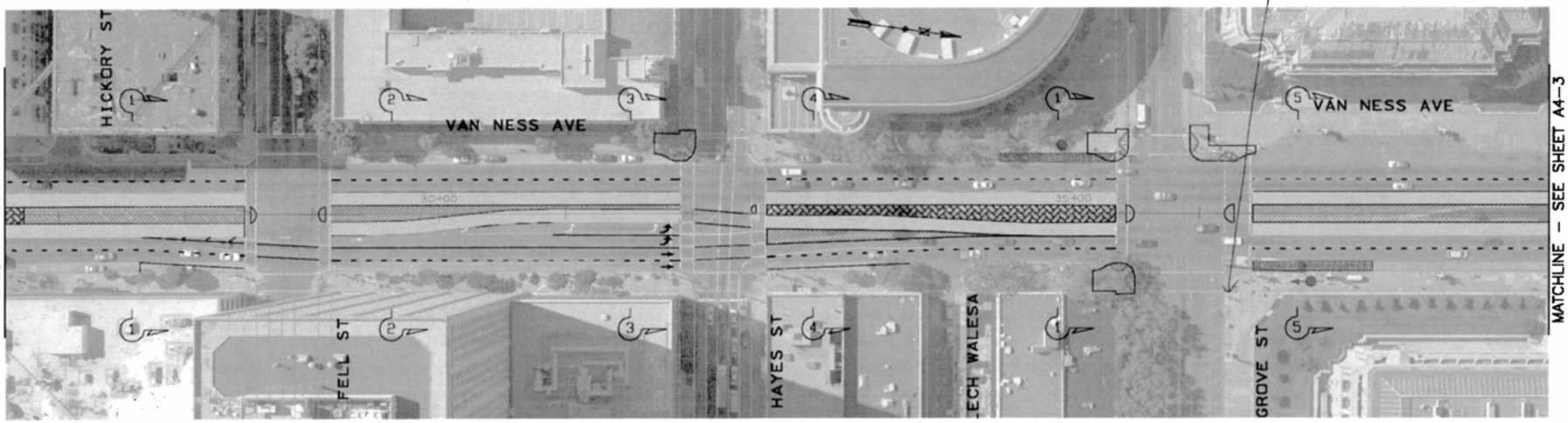


ALT 4 SECTION 7
SCALE: 1"=20'

ALT 4 SECTION 8
SCALE: 1"=20'

ALT4 SECTION 9
SCALE: 1"=20'

F/I BRICK CISTERN RING



PLAN
SCALE: 1"=40'

40 0 20 40 80
GRAPHIC SCALE

NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

SUPERCEDES STR-5458.2 REV "4"

DESIGNED: LAM 10/07	APPROVED
DRAWN: AK 6/08	SECTION ENGINEER DATE:
CHECKED: KF 7/08	DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:

SCALE: 1"=40'
SHEET OF SHEETS: 2 OF 10

Van Ness Avenue
Bus Rapid Transit Study

Alternative 4: Center Lane BRT
With Left Side Loading/Center Median

CONTRACT NO.
DRAWING NO. A4-2
FILE NO.
REV. NO.

Aug 14, 2008 - 8:48am RVS4804 Van Ness\Modified AI\Cor AREAL PLOTTING\ALT4-ARTERIAL.dgn 4 - ASM drwg set 1-2.dwg

A-7e-60
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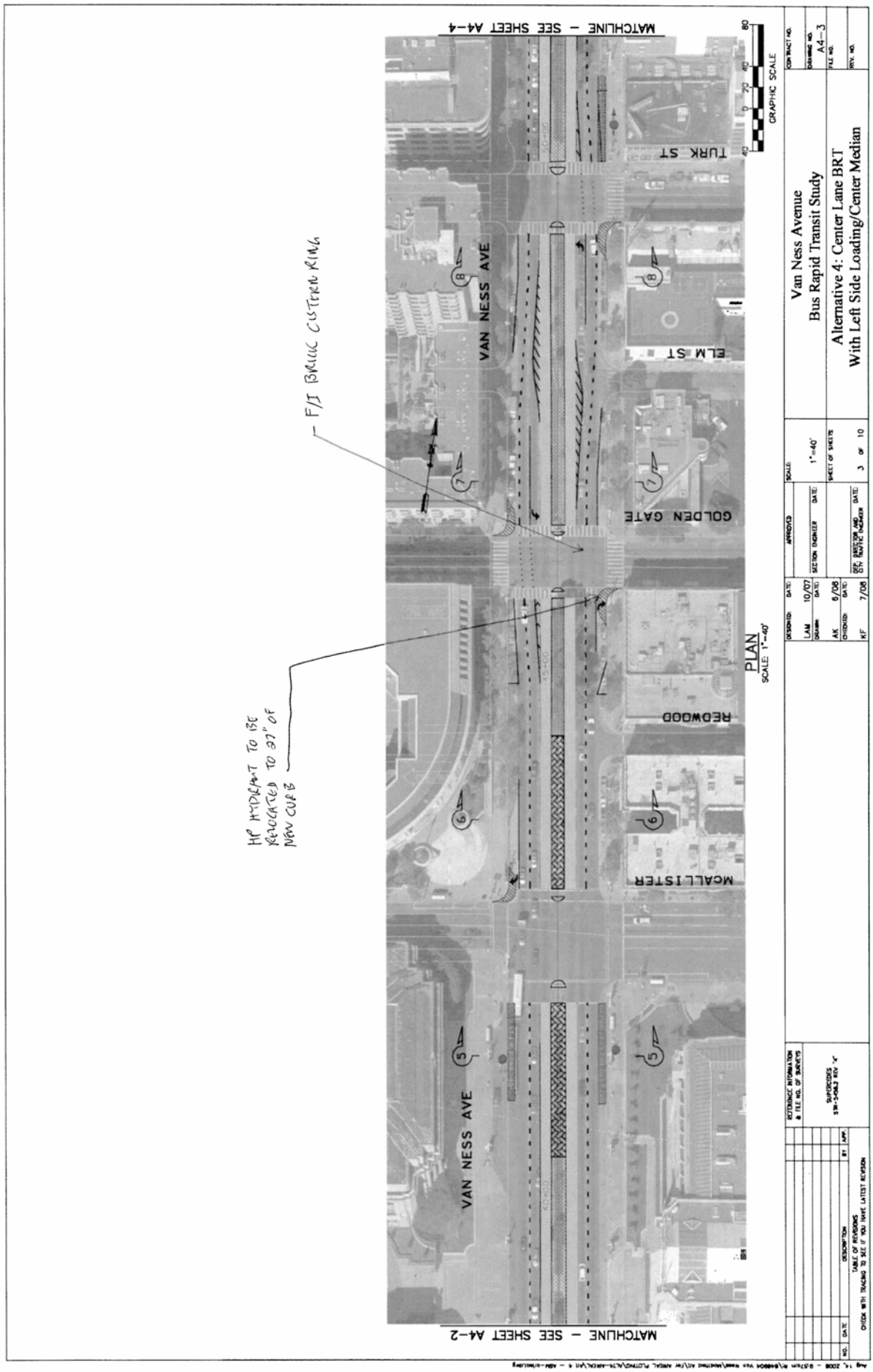

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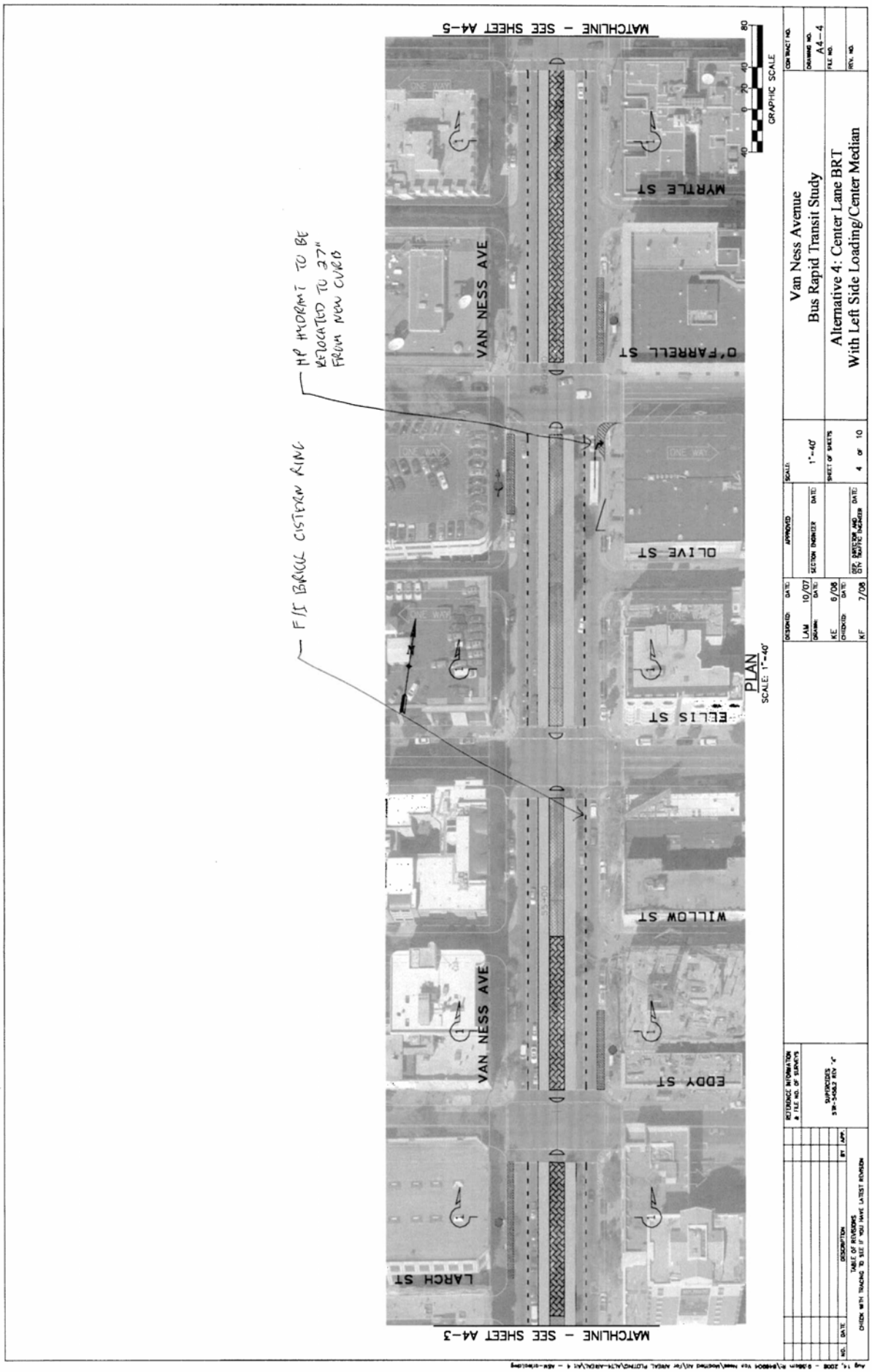

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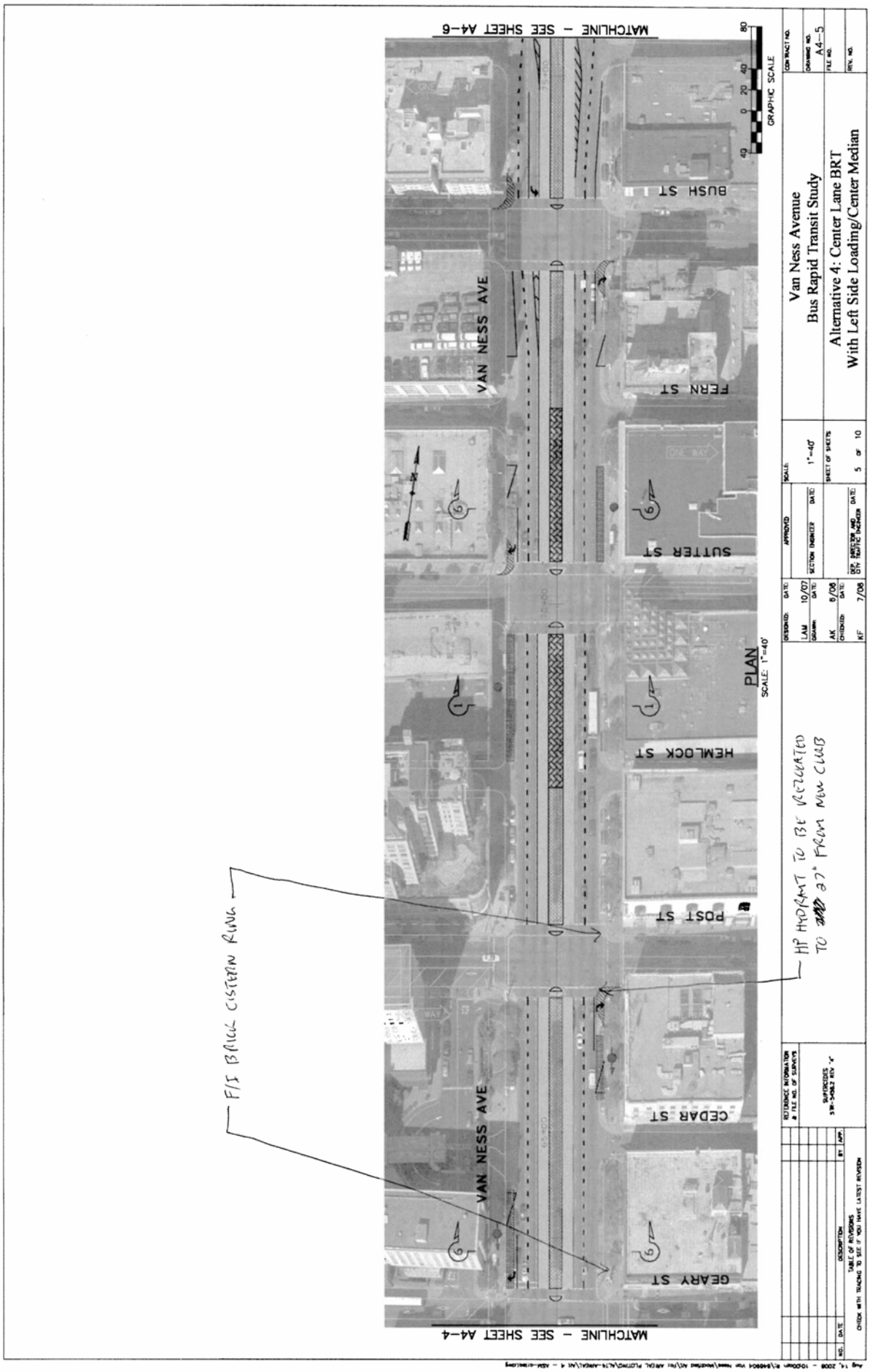

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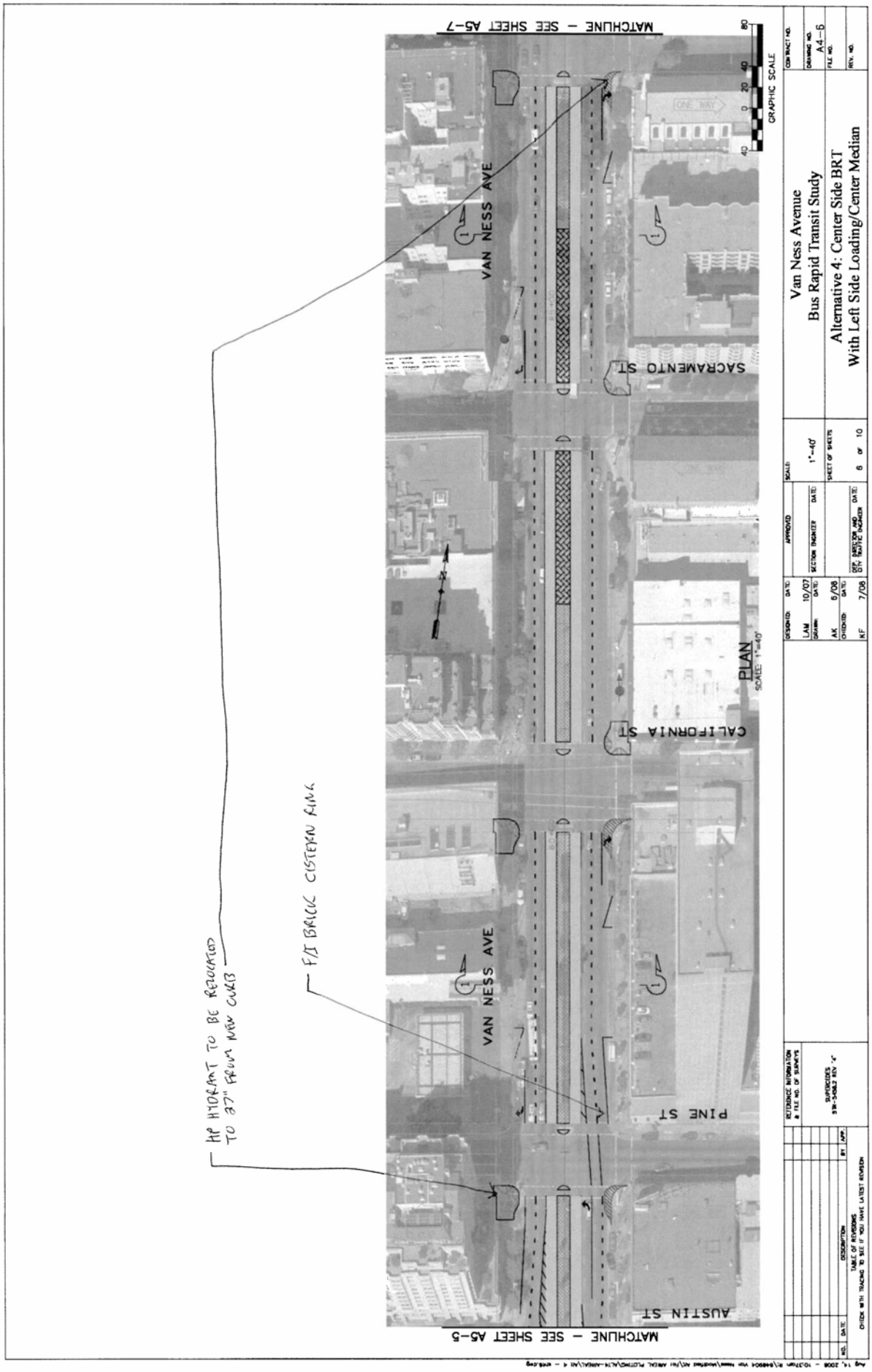

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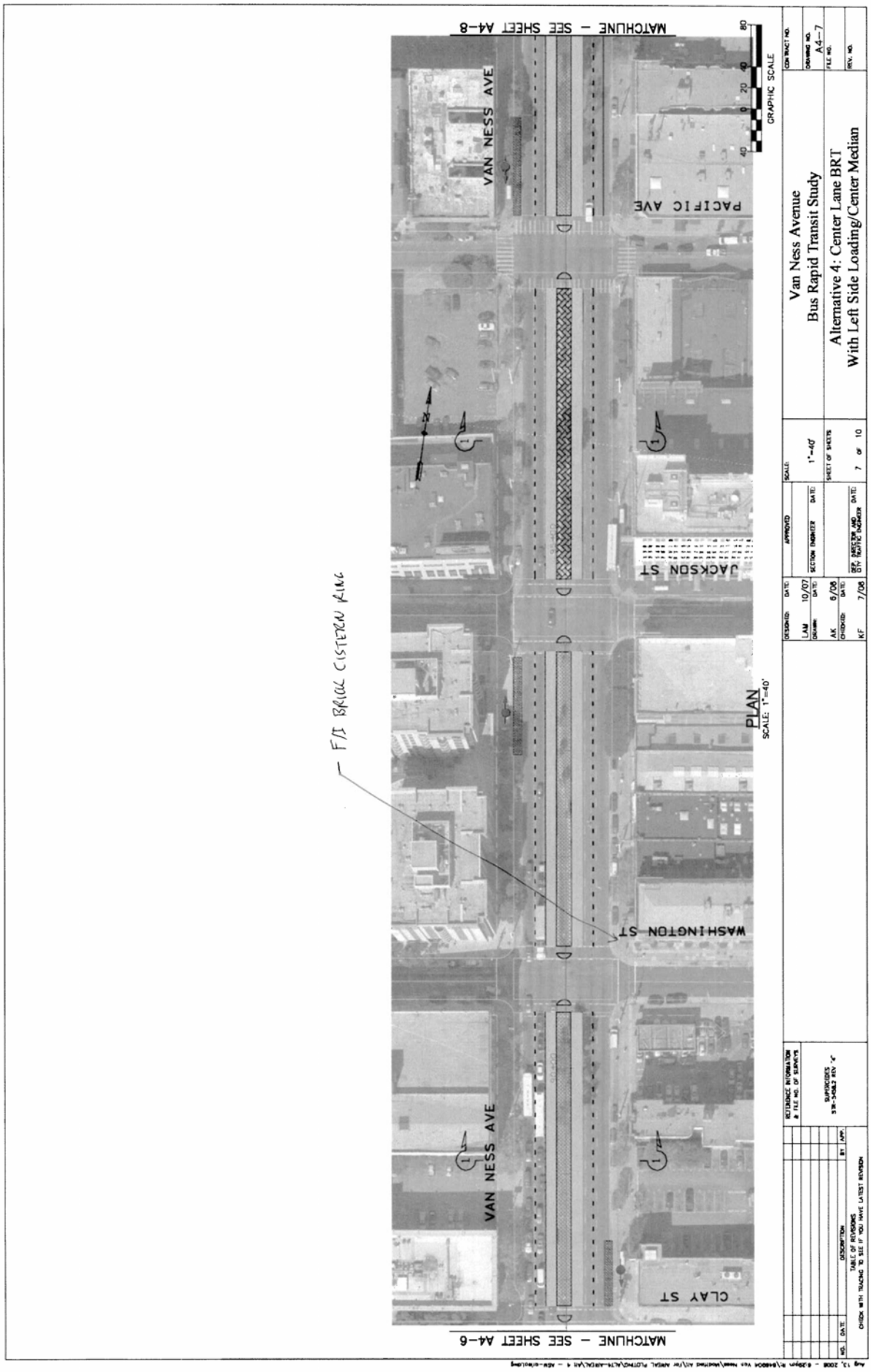

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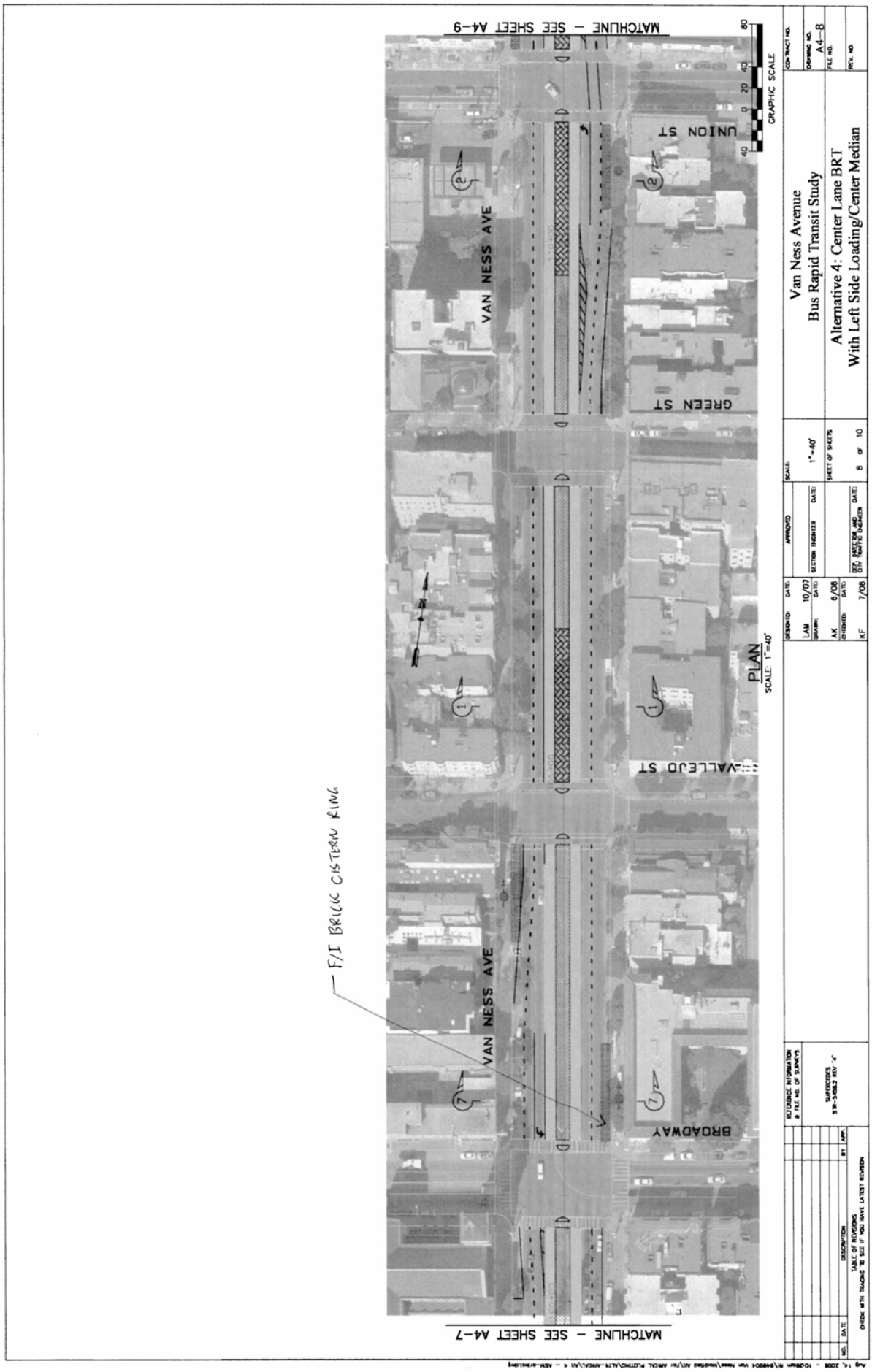

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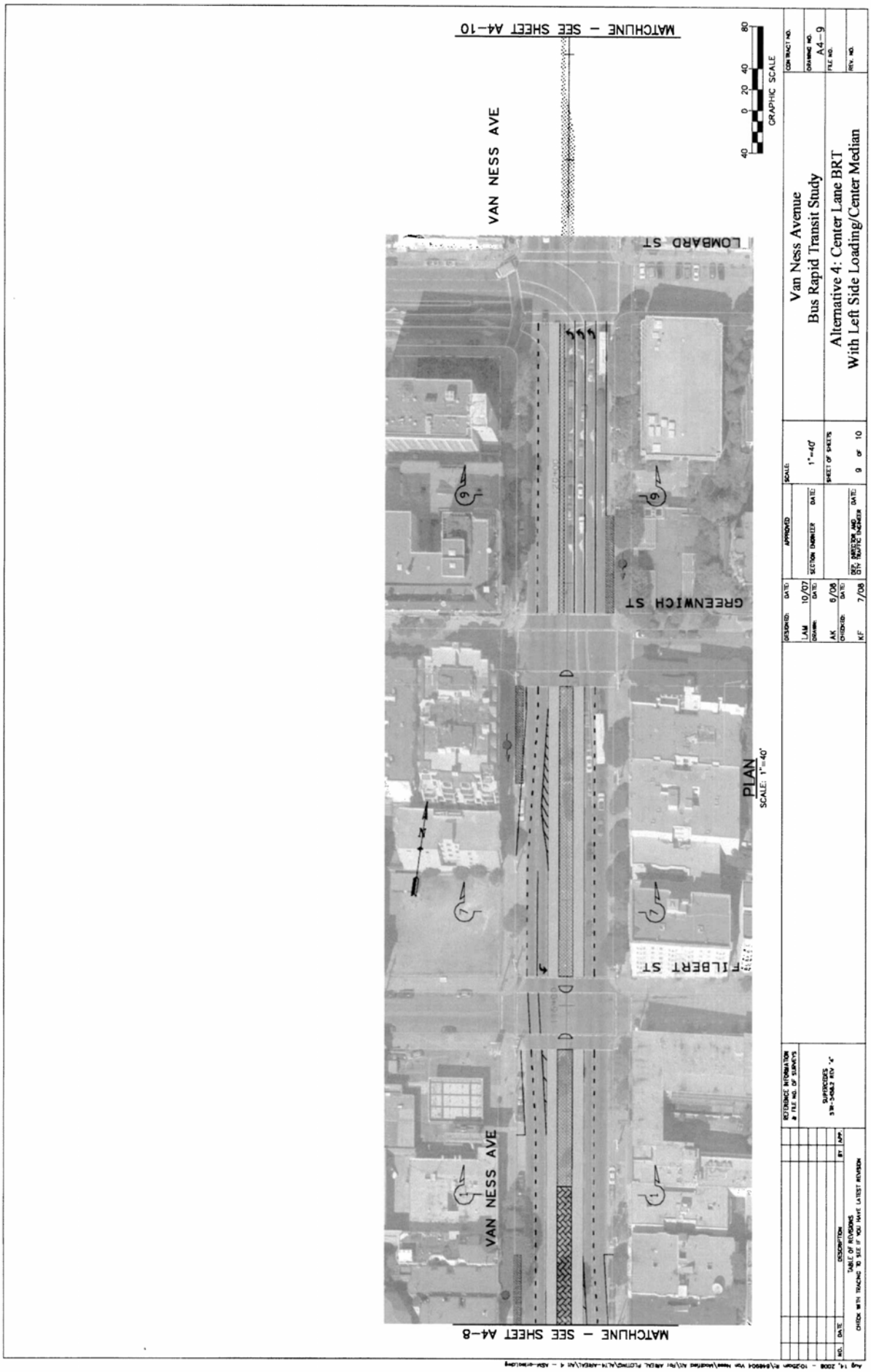

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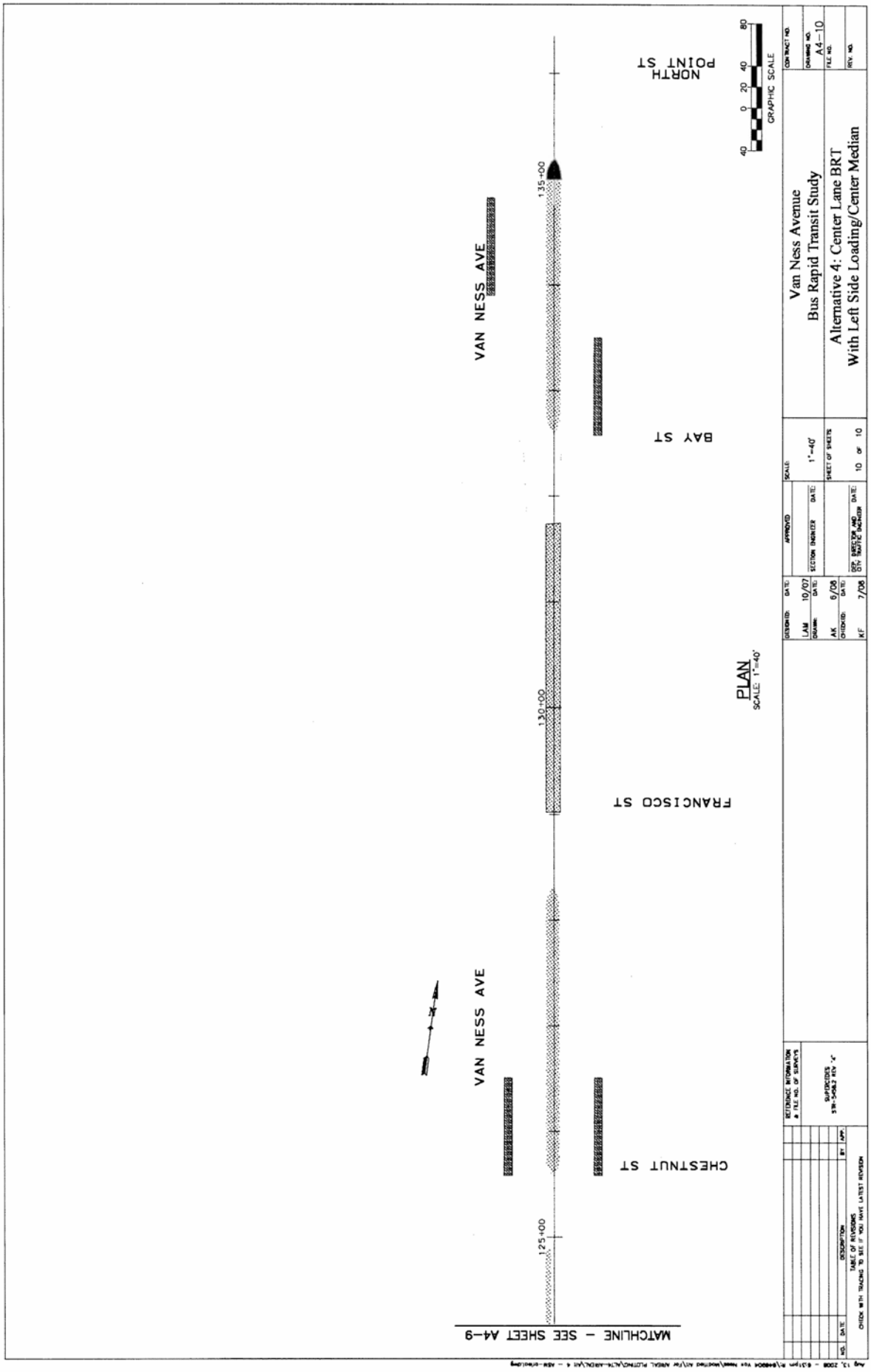

Van Ness Avenue - BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Market to Mission ST	A2-1	Dual sewer lines located adjacent to existing curb line. Proposed bulb-out and platform will be located above sewer. Sewer may need to be relocated.	A3-1	Dual sewer lines located adjacent to existing curb line. Proposed bulb-out and platform will be located above sewer (NE Corner SVN & Mission). Sewer may need to be relocated.	A4-1	Dual sewer system located outside of proposed work
Side Street - 12th St	A2-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.	A3-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.	A4-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.
Market to Fell	A2-2	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Platform are located above Sewer. Sewer may need to be relocated.
Fell to Hayes	A2-2	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
Hayes - Grove	A2-2	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Platform are located above Sewer. Sewer may need to be relocated.
Grove - McAllister	A2-3	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-3	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-3	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
McAllister - Golden Gate	A2-3	Sewer located near current bus lane on east side of the median. Sewer line is not affected	A3-3	Sewer located in the landscaping or the platform area on the east side. Sewer may need to be relocated.	A4-3	Sewer located near current bus lane on east side of the median. Sewer may need to be relocated
Golden Gate - Turk	A2-3	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-3	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-3	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.

Van Ness Avenue - BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Turk - Eddy	A2-4	Dual Sewer located outside of the median area. Sewer lines are not affected	A3-4	Sewer located in the landscaping or the platform area on the east side. Sewer may need to be relocated.	A4-4	Dual Sewer located in the proposed bus lanes. Sewer may need to be relocated.
Eddy - Ellis	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Ellis - O'Farrell	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
O'Farrell - Geary	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Platform are located above Sewer. Sewer may need to be relocated.
Geary - Post	A2-5	No sewer on street	A3-5	No sewer on street	A4-5	No sewer on street
Post - Sutter	A2-5	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-5	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-5	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Sutter - Bush	A2-5	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-5	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-5	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Bush - Pine	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Pine - California	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
California - Sacramento	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Sacramento - Clay	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Clay - Washington	A2-7	No sewer on street	A3-7	No sewer on street	A4-7	No sewer on street
Washington - Jackson	A2-7	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-7	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-7	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
Jackson - Pacific	A2-7	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-7	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-7	Sewer located in the center of the street ROW. Platform are located above Sewer. Sewer may need to be relocated.
Pacific - Broadway	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
Broadway - Vallejo	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.

Van Ness Avenue - BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Vallejo - Green	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Green - Union	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Union - Filbert	A2-9	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-9	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-9	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Filbert - Greenwich	A2-9	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-9	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-9	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
Greenwich - Lombard	A2-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.	A3-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.	A4-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.

Van Ness Avenue – BRTS
BOE-EHY

General Comments:

- Where there are sewer lines underneath proposed work (platforms, landscaping, bus lane), there may be a need to relocate sewer line outside. Sewer lines located under proposed structures would increase SFPUC's cost to repair, replace or maintain the sewer line. **A-7e-62**
- Where bus lanes are located above the existing sewer line, the bus lanes must provide for Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown for access. **A-7e-63**
- Street surface drainage must be taken into consideration when there are bulb-outs or sidewalk widening proposed. Any introduction of bulb-outs to a street ROW must be designed to meet the conveyance of a 100-year design storm system. **A-7e-64**
- Any existing sewer laterals located in the proposed bulb-out or platform area shall be evaluated for replacement. MUNI shall be responsible for restoring street infrastructure when there is a need for sewer lateral repair/replacement/maintenance under the proposed bulb-out or platform are. **A-7e-65**
- Right turn pocket from eastbound Mission to southbound S Van Ness appears to be eliminated with landscaping. Please confirm. **A-7e-66**

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7e-1	Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. Section 10.2.4.4 Urban Design/Landscape describes how changes in the amount of permeable or landscaped surface area for the build alternatives, at the present level of design, is considered in the alternatives analysis and LPA selection process. See response to Comment 7a-21.
A-7e-2	Please see comment A-7e-1 regarding stormwater management. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. See Response to Comment A-7c-13 Mature tree canopies provide water quality, aesthetic and carbon off-set benefits. There would be a period of reduced benefits until the new tree plantings grow to maturity, and these benefits would not be fully compensated in the event different tree types are selected that do not offer the same size canopy as existing trees that would be removed. However, under each build alternative, including the LPA (with or without the Vallejo Northbound Station Variant), the reduced benefits due to smaller tree canopy size would be offset by an overall increase in trees in the corridor. Similarly, it is recognized that there will be a plant establishment period for new trees to reach maturity and therefore the greenspace feel of the median would take time to manifest itself. While the appearance of Van Ness Avenue would change with the addition of BRT streetscape features (stations and transitway) in the median under Build Alternatives 3, 4, and the LPA a landscaped median design with tree plantings would be developed throughout the corridor, in harmony with urban design goals set by the City for Van Ness Avenue.
A-7e-3	See Response to Comment A-7e-2. All tree removal would comply with City permits, and the project would comply with provisions of the Migratory Bird Treaty Act, as discussed in Sections 4.13 and 4.15.11 of the EIS/EIR. Please see comment A-7e-1 regarding stormwater management. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA.
A-7e-4	Comment is out of date. Evaluation criteria, indicators, and alternatives performance used in Chapter 10 of the EIS/EIR were later reviewed by DPW staff as part of their role on the TAC. All alternatives were further refined since the time of comment and public circulation of the Draft EIS/EIR. Thus, the analysis cited in this comment is no longer accurate for the alternatives described in the EIS/EIR, including the LPA. Section 4.4 evaluates visual impacts of the project, including project design and landscaping. Section 3.4 evaluates pedestrian conditions, and Section 4.9 evaluates changes in storm runoff.

A-7e-5 Please see response to comment A-7e-4.

A-7e-6 Curb ramp upgrades to meet ADA standards are included for all ramps for all alternatives as part of the Caltrans 2007 Ten-Year State Highway Operation and Protection Program (SHOPP) repaving project in coordination with the Van Ness BRT.

A-7e-7 As part of the preliminary engineering phase, a complete survey will be undertaken to understand the utility conflicts for all components of the project, including utility relocations such as hydrants. These details will be taken into account during detailed design.

A-7e-8 Chapter 4.6 (Utilities) incorporates the findings of the conflict report.

A-7e-9 Section 3.3.3.2 indicates that one of the two mixed traffic left turn bays would be eliminated under all build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant). This allows for a dedicated lane for buses to turn left. The operational traffic Synchro models included this reduction in turn lanes to determine potential significant environmental impacts.

A-7e-10 No changes to directionality on 12th Street are proposed as part of the project under any of the build alternatives, including the LPA.

A-7e-11 Curb ramp upgrades to meet ADA standards are included for all ramps for all alternatives as part of the Caltrans 2007 Ten-Year State Highway Operation and Protection Program (SHOPP) repaving project in coordination with the Van Ness BRT.

A-7e-12 As part of the preliminary engineering phase, a complete survey will be undertaken to understand the utility conflicts for all components of the project, including utility relocations such as hydrants. These details will be taken into account during detailed design.

A-7e-13 Chapter 4.6 (Utilities) incorporates the findings of the conflict report.

A-7e-14 Section 3.3.3.2 indicates that one of the two mixed traffic left turn bays would be eliminated under all build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant). This allows for a dedicated lane for buses to turn left. The operational traffic Synchro models included this reduction in turn lanes to determine potential significant environmental impacts.

A-7e-15 Please see response to comment A-7e-10.

A-7e-16 Curb ramp upgrades to meet ADA standards are included for all ramps for all alternatives as part of the Caltrans 2007 Ten-Year State Highway Operation and Protection Program (SHOPP) repaving project in coordination with the Van Ness BRT.

A-7e-17 All existing fire hydrants at corners with planned bulb outs will be relocated as needed per standards, as noted in Sections 4.6 and 4.15.5 of the EIS/EIR.

A-7e-18 Chapter 4.6 (Utilities) incorporates the findings of the conflict report.

A-7e-19 Chapter 4.6 (Utilities) includes incorporates the findings of the conflict report.

A-7e-20 Chapter 4.6 (Utilities) includes incorporates the findings of the conflict report. The EIS/EIR reflects any increase in maintenance cost for the various alternatives, including the LPA, and this is described in Chapter 9. In addition, construction intensity for each alternative, including the LPA, is shown in Chapter 10 and this reflects the amount of utility replacement and/or relocation required with the implementation of Van Ness Avenue BRT.

A-7e-21 The AWSS line runs beneath the outer traffic lane, and the valves are located above the line. Center-lane configured Build Alternatives 3 and 4 and the LPA would not require rerouting for AWSS maintenance, and utility relocations would address maintenance requirements as discussed in Section 4.6.3.2 Utility

Facility Access and Planning.

A-7e-22 Please see response to comment A-7e-21.

A-7e-23 Please see response to comment A-7e-21.

A-7e-24 Utility relocations would address maintenance requirements as discussed in Section 4.6.3.2 Utility Facility Access and Planning.

A-7e-25 All build alternatives would have more effective sidewalk width due to the removal of the existing bus shelters. Build Alternative 2 would not have wider sidewalks than the other build alternatives. Please see response to comment A-7a-38.

A-7e-26 Please see response to comment A-7a-38.

A-7e-27 Chapter 3.5 of the Draft EIS/EIR shows a summary of the colored curb parking spaces while Appendix B shows the existing spaces on a block-by-block basis, and the change in amount depending on the alternative.

The adjacent curb ramps were not identified at this phase of design.

For the LPA (with or without the Vallejo Northbound Station Variant), in most cases colored spaces would be able to be retained on the same street block or on adjacent blocks. All blue spaces would be retained on the same or adjoining block face with the implementation of BRT. Passenger and truck loading zones could be provided on the same side of the street, where feasible, so that crossing a street for loading would not be needed; however, specific locations were identified where provision of replacement colored spaces on an adjoining block may not be feasible or where an affected business may have special needs requiring immediately adjacent parking, such as passenger loading zones that serve elderly or infirmed people or truck loading zones that support delivery of large commercial goods. Potentially significant colored parking zone impacts on the area's adjacent uses are identified in Chapter 4.2 Community Impacts: Table 4.2-9.

A-7e-28 Chapter 3.5 of the Draft EIS/EIR shows a summary of the colored curb parking spaces while Appendix B shows the existing spaces on a block-by-block basis, and the change in amount of parking depending on the alternative. The adjacent curb ramps were not identified at this phase of design. The parking analysis presented in Chapter 3.5 of the Final EIS/EIR considers adherence to ADA design requirements such as provision of curb ramps behind handicapped spaces (which largely are not present in existing conditions).

See Response to Comment A-7e-27.

A-7e-29 These quantities are shown for each alternative, including LPA, in Appendix B of the Draft EIS/EIR.

A-7e-30 Crosswalks will have a minimum 10 foot width and may be wider. Crosswalk width is anticipated to be determined during preliminary engineering.

A-7e-31 Thumbnails at intersections are part of the project definition, referred to as nose cones, and are described in Chapter 2 of the Draft EIS/EIR. Median refuge islands will be at least 6 feet wide for the LPA at all intersections except the south crosswalk at Mission/South Van Ness, a configuration under existing conditions.

A-7e-32 It is unclear which alternative is being referred to in this comment. Regardless, all build alternatives, including the LPA, will provide bulbout opportunities. The estimated costs of the bulbs are incorporated into the capital costs shown in Chapter 9. No cost savings for the reduction in conflicts between ramps and sub-sidewalk basements are assumed in the estimates.

A-7e-33 Thumbnails at intersections are part of the project definition, referred to as nose cones, and are described in Chapter 2 of the Draft EIS/EIR. This is included in project design, as shown in the engineering

drawings in Appendix A of the Draft EIS/EIR. Crosswalks are shown with 10 foot widths in the EIS/EIR.

A-7e-34 See response to comment A-7e-33.

A-7e-35 See response to comment A-7e-33.

A-7e-36 See response to comment A-7e-33.

A-7e-37 See response to comment A-7e-33.

A-7e-38 See response to comment A-7e-33.

A-7e-39 See response to comment A-7e-33.

A-7e-40 See response to comment A-7e-33.

A-7e-41 See response to comment A-7e-33.

A-7e-42 See response to comment A-7e-33.

A-7e-43 See response to comment A-7e-33.

A-7e-44 See response to comment A-7e-33.

A-7e-45 See response to comment A-7e-33.

A-7e-46 See response to comment A-7e-33.

A-7e-47 See response to comment A-7e-33.

A-7e-48 See response to comment A-7e-33.

A-7e-49 The current configuration requires an angled crosswalk in order to accommodate the turning geometry for vehicle traffic. During advanced design, the project will further study the feasibility of a straight-line crosswalk at this intersection. Improvements to the median on the north side of the Lombard Street/Van Ness Avenue intersection will meet ADA standards.

A-7e-50 Build Alternative 3 includes island platforms with 9 feet of width. The crosswalks will all include detectable warning strips to define traffic and BRT lanes when crossing from the sidewalk or platform using the curb ramps.

A-7e-51 The commenter is correct. If Build Alternative 3 were to be chosen as the LPA, staff would refine the engineering of the BRT during the design phase to provide pedestrian refuges at these intersections if possible. The LPA provides a 6-11 foot pedestrian refuge at all areas noted in the comment.

A-7e-52 Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA.

Chapter 3.4 in the Draft EIS/EIR (non-motorized transportation) provides an analysis of universal design and Section 10.2.4.3 includes a comparison of each alternative's performance in meeting universal design principles. These analyses were reviewed by the DPW Accessibility Coordinator.

A-7e-53 Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. Performance indicator C-1 captures the width of the median. The sidewalk width would be unchanged for all of the build alternatives, including the staff recommended LPA.

A-7e-54 The commenter is correct that Build Alternative 3 would provide the fewest pedestrian bulbouts of any of the build alternatives, including the LPA. Unit costs of curb ramps have been incorporated into the

Capital costs shown in Chapter 9. These costs were the most up to date based on the level of design at the time of preparation of the Draft EIS/EIR. Further surveys during the design phase may reveal sub-sidewalk basements that could alter the costs of providing pedestrian bulbouts.

A-7e-55 The current configuration requires an angled crosswalk in order to accommodate the turning geometry for vehicle traffic. During advanced design, the project will further study the feasibility of a straight-line crosswalk at this intersection. Improvements to the median on the north side of the Lombard Street/Van Ness Avenue intersection will meet ADA standards.

A-7e-56 The existing sidewalk width would not be changed under any of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant). Curb bulbs would be provided under all build alternatives, including the LPA, which extend from the sidewalk. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. Performance indicator C-1 considers the width of the median. Build Alternative 4 would have a wider median than existing conditions at most locations, with 14 feet being the most common.

The LPA includes a median width of 6-11 feet at most locations, with 6 feet being the minimum width at all locations except the southern crossing of Mission/South Van Ness, a configuration under existing conditions.

A-7e-57 All build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would provide more bulbouts than under existing conditions. Unit costs of curb ramps have been incorporated into the Capital costs shown in Chapter 9. These costs were the most up to date based on the level of design at the time of preparation of the Draft EIS/EIR. Further surveys during the design phase may reveal sub-sidewalk basements that could alter the costs of providing pedestrian bulbouts.

A-7e-58 This is included in project design, as shown in the engineering drawings in Appendix A of the Draft EIS/EIR.

A-7e-59 The current configuration requires an angled crosswalk in order to accommodate the turning geometry for vehicle traffic. During advanced design, the project will further study the feasibility of a straight-line crosswalk at this intersection. Improvements to the median on the north side of the Lombard Street/Van Ness Avenue intersection will meet ADA standards.

A-7e-60 Comments out of date. More recent engineering drawings are included as part of Appendix A in the Draft and Final EIS/EIR.

A-7e-61 Potential sewer replacements and relocations caused by the implementation of Van Ness Avenue BRT are reflected in the Capital Costs in Chapter 9 and the Construction intensity performance indicator in Chapter 10. Under Build Alternative 2, no sewer replacement/relocation is assumed as a result of the project. Under Build Alternative 3, replacement/relocation of the entire sewer is assumed as a result of the project. Under Build Alternative 4, replacement/relocation of the sewer at BRT station locations is assumed as a result of the project. Under the LPA, replacement/relocation of the sewer is assumed at BRT station locations and areas where the BRT would cause significant load (weight) on the sewer. Coordination with all relevant City and County of San Francisco agencies with regard to utilities will take place during the design phase if the project is approved.

A-7e-62 See Response to Comment A-7e-61.

A-7e-63 Comment out of date. Since submittal of this comment, DPW has provided maintenance cost estimates for each of the build alternatives, including the LPA, which are reflected in Chapter 9 of the Draft EIS/EIR. Under the LPA, SFPUC would be able to access the sewer without needing to stop BRT service. Muni ROW drainage will be incorporated into advanced design of the project, if the project is approved.

A-7e-64 Street surface drainage will be incorporated into the design phase for the project, per applicable requirements, if the project is approved.

A-7e-65 The LPA requires minimal replacement of the existing sidewalk curb. At station platforms and bulb locations, sewer laterals would be sleeved or replaced as necessary and the City will relinquish ownership of laterals from new curb line. Build Alternative 2 could require the sleeving or replacement of sewer laterals at all BRT station locations because they would functionally extend the curb line.

A-7e-66 The right turn pocket (slip lane) from eastbound Mission to southbound South Van Ness Avenue is proposed to be maintained under all of the build alternatives, including the LPA.

City and County of San Francisco

Edwin M. Lee, Mayor
Edward D. Reiskin, Director

San Francisco Department of Public Works
Office of the Deputy Director for Operations
Urban Forestry Permits and Policy Group
2323 Cesar Chavez Street
San Francisco, CA 94124
(415) 641-2676 ■ www.sfdpw.org

TO: Charles Yu, Engineer, DPW Bureau of Engineering

FROM: James DeVinny, Arborist Inspector, DPW Urban Forestry Permits & Policy

DATE: April 8, 2011

SUBJECT: Urban Forestry Comments for DPW Response to Van Ness BRT DEIR

Build Alternative 2 remains the vastly preferred alternative from the Urban Forestry perspective because it would preserve existing tree and landscape plantings.

A-7f-1

Benefits which trees provide to the urban environment include: noise reduction, wind mitigation, interception and diversion from storm drains of stormwater, interception of carcinogenic particulates emitted by automobiles, carbon sequestration, and exchange of carbon dioxide for oxygen.

These benefits are recognized and promoted by numerous local, state, and federal policies and guidelines. The San Francisco County Transportation Authority's Draft EIS/EIR for the Van Ness Bus Rapid Transit Project addresses tree removal and replacement in the context of visual impacts and impacts to wildlife. The DEIS/DEIR fails to account for the impact that the proposed reduced mature tree canopy (drastically reduced in Build Alternative 3 and reduced in Alternative 4) would have on air quality, water quality, and post-construction/operational noise pollution.

A-7f-2

The benefits provided by the trees which comprise a forest, urban or otherwise, are quantified by both the number of trees and the surface area of the individual trees' leafy canopy and bark. It follows that the benefits provided by trees increase with maturity and increasing canopy spread.

Table 4-4.2 illustrates the anticipated number of trees to be removed and the estimated number to be planted for each Build Alternative. Build Alternative 3 proposes removal and replacement of 101 median trees, or just under 25% of the trees on the corridor. The DEIS/DEIR fails to capture the loss of surface area, which would be a higher proportion, since the largest tree canopy spread and trunk diameters in the corridor belong to the median trees. The San Francisco Green Landscaping Ordinance acknowledges that the greatest stormwater benefits occur when tree canopies cover impervious areas and intercept water before if falls to the ground. The DEIS/DEIR does not address the change in stormwater patterns while replacement trees reach maturity (many of the existing trees are 20 – 30 years old) or the difference between replacement trees with narrow canopies (including palms) and the current benefits provided by the existing broad-canopy, mature median trees.

A-7f-3

Similarly, discussion of air quality does not address the reduction in tree surface area (and associated reduction of carbon dioxide- and particulate-mitigating benefits) due to narrower canopy replacement trees and the time between removal of existing trees and maturity of replacement trees. The potential impact that loss of large tree canopy might have on wind patterns and related energy consumption isn't

A-7f-4
continued

acknowledged, nor is the loss or reduction of noise mitigation provided by the existing trees and the associated effects on residents, workers, and pedestrians.

A-7f-4 *continued*

Discussing the visual impacts to the corridor, Section 4.4.3.4 states "the consistent median configuration provided by Build Alternative 3 would provide a strong, central axis for visual continuity in the corridor." Both Build Alternative 3 and achieving this axis would require the removal of all median trees, which conflicts with Better Streets Plan Chapter 6.1, which states that "street trees are the most important organizing element of the streetscape environment."

A-7f-5

Throughout the document, there is also a clear bias toward replacing the varied tree planting with a single species as a way of creating a strong identity for the corridor. I believe this is a subjective intrusion in the document and would like to introduce the idea that the diversity of tree species in the existing median serves as a much stronger place-maker than a consistently planted row of a single species, such as *Phoenix canariensis* (as illustrated in some of the renderings). Not only are Canary Island Date Palms expensive and susceptible to the fatal and highly contagious pathogen *Fusarium oxysporum*, they are already planted on the Dolores median, Market Street Median, and the Embarcadero. Currently, the Van Ness Avenue median represents one of the largest and most densely planted right-of-way spaces on the east side of the city. It is also one of the most diversely planted medians in the city, with at least 20 different species occurring between Market Street and North Point. As mentioned earlier, many of the trees are 20 – 30 years old, and a few of the species are found in the city only in the Van Ness median and Golden Gate Park. Some of the city's only Camden Wollybutt (*Eucalyptus macarthurii*), Yellow Box (*Eucalyptus melliodora)*, and Black Marlock (*Eucalyptus redunca*) are found on this diverse tree laboratory. Some of the city's finest examples of the much maligned *Corymbia ficifolia* (which is endangered in its native range and particularly well-adapted to San Francisco) are to be found on the Van Ness median. Dismissing the exuberant planting in favor of a "strong central axis" devoid of trees except for overplanted and doomed Canary Island Date Palms seems like a mistake that will be regretted by many for years.

A-7f-6

Finally, 4.5 and 4.13.2 refer to one of the Cork Oaks as "a *significant tree* protected by the Landmark Tree Ordinance." This is not correct. None of the trees on Van Ness, either in the median or on the sidewalk, have been officially designated as Landmark Trees. The Public Works Code defines Significant Trees as tree on private property, but within 10' of the right-of-way and meeting certain size criterion. The trees on Van Ness are protected because they are in the public right-of-way. Removal of any of these trees will required a permit issued by the Department of Public Works and subject to public process which may include public hearings.

A-7f-7

Thank you.

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7f-1	Support for Build Alternative 2 noted. See Response to Comment A-7e-2.
A-7f-2	See Response to Comment A-7e-2.
A-7f-3	Mature tree canopies provide stormwater management benefits. There would be a period of reduced benefits until the new tree plantings grow to maturity, and these benefits would not be fully realized in the event different tree types are selected that provide less canopy than the existing trees that would be removed. However, under each build alternative, including the LPA (with or without the Vallejo Northbound Station Variant), any reduced benefits due to smaller tree canopy size would be offset by an overall increase in trees and pervious surface area in the corridor. Under all build alternatives, including the LPA, more trees would be planted than would be removed, resulting in more trees after construction of the BRT than are currently present in the Van Ness Avenue corridor. See Master Response #7 regarding tree removals and replanting opportunities.
A-7f-4	See Response to Comment A-7e-2. Under existing conditions, the No Build Alternative, or the build alternatives, trees within the roadway median and/or along the roadway edges have or would have a negligible influence on sound propagation. The distribution of trees is and would be narrow and discontinuous. Furthermore, even for those trees that are densely leaved, the leaves tend to be concentrated at heights well above the paths between traffic noise sources and the nearest noise-sensitive receivers. Only continuous, deep groupings of non-deciduous foliage with relatively densely-packed leaves or needles positioned in the path of sound propagation have the potential to substantially attenuate noise levels. For similar reasons, tree plantings along Van Ness Avenue are unlikely to affect wind patterns or energy consumption.
A-7f-5	The mitigation for tree loss, as described in Section 4.4., is the replacement of those trees, and to look for opportunities to preserve trees throughout project design. Since there would be a net increase in the number of trees, this would be consistent with the Better Streets Plan, Chapter 6.1.Preservation of trees, where feasible, will be a priority during the design phase if the project is approved. New trees would help enhance the urban design of the corridor, supplementing preserved trees. See Master Response #7 regarding preserved trees and replanting opportunities.
A-7f-6	The point that diversity of tree species can service as a strong place-maker is well taken. The consistency of the median was cited as an urban design goal by the multi-agency technical advisory committee (TAC) during the Van Ness Avenue BRT feasibility study and preparation of the Draft EIS/EIR, on which DPW had representation through the EIS/EIR TAC. This study included the Van Ness Corridor Initial Land Use and Urban Design Needs Assessment, completed by the San Francisco Planning Department. This study cited a consistent median as being desirable for the corridor. The consistency of the median does not mean that the design would only choose a small number of species. Rather, this refers to the consistency in look and feel of the median. New tree plantings would supplement trees that are preserved. Particular tree species to be planted will be selected as part of the design phase if the project is approved.
A-7f-7	Comment is out of date. The Draft EIS/EIR does not refer to the Rosa Parks tree as significant. Section

4.13.2 of the Final EIS/EIR explains that the Rosa Parks Tree does not qualify as a landmark or significant tree, but warrants special consideration in planning. Section 4.15.11 explains that a preconstruction survey would be required by a certified arborist to identify protected trees that would be impacted by the proposed project and determine the need for tree removal permits and tree protection plans during construction and into project operation. Build Alternative 3 and the staff recommended LPA (with or without the Vallejo Northbound Station Variant) would require the removal of the dedicated Rosa Parks Memorial Tree. All relevant City processes will be followed, as described in Chapter 4.13 Biological Environment.

Since the Rosa Parks tree is relatively young, it could be relocated to a different location, either along the corridor or in a different part of the city. Decisions about tree plantings and relocation of existing trees will be decided as part of the design phase if the project is approved.

Van Ness Avenue BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Market to Mission St	A2-1	Dual sewer lines located adjacent to existing curb line. Proposed bulb-out and platform will be located above sewer. Sewer may need to be relocated.	A3-1	Dual sewer lines located adjacent to existing curb line. No impact.	A4-1	Dual sewer system located outside of proposed work
Side Street - 12th St	A2-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.	A3-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.	A4-1	Sewer located within proposed landscaped area. Any planned work will require review in order to determine maintenance and replacement of sewer line.
Market to Fell	A2-2	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Platform and landscaping are located above Sewer. Sewer may need to be relocated.
Fell to Hayes	A2-2	Sewer located in the center of the street ROW. Proposed landscaping (narrow median) is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Landscaping and platform are located above Sewer. Sewer may need to be relocated.
Hayes - Grove	A2-2	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-2	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Sewer may need to be relocated.
Grove - McAllister	A2-3	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-3	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-3	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
McAllister - Golden Gate	A2-3	Sewer located near current bus lane on east side of the median. Sewer line may not affected	A3-3	Sewer located in the landscaping area on the east side. Sewer may need to be relocated.	A4-3	Sewer located near current bus lane on east side of the median. Sewer may need to be relocated
Golden Gate - Turk	A2-3	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-3	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-3	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Turk - Eddy	A2-4	Dual Sewer located outside of the median area. Sewer lines may not be affected	A3-4	Sewer located in the landscaping or the platform area on the east side. Sewer may need to be relocated.	A4-4	Dual Sewer located in the proposed bus lanes adjacent to landscaping and platform. Sewer may need to be relocated.

Van Ness Avenue BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Eddy - Ellis	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Ellis - O'Farrell	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Landscaping are located above Sewer. Sewer may need to be relocated.
O'Farrell - Geary	A2-4	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-4	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Sewer may need to be relocated.
Geary - Post	A2-5	No sewer on street	A3-5	No sewer on street	A4-5	No sewer on street
Post - Sutter	A2-5	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-5	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-5	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.3
Sutter - Bush	A2-5	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-5	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or repla	A4-5	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Bush - Pine	A2-6	Sewer located in the center of the street ROW. Proposed landscaping (narrow median) is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Pine - California	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
California - Sacramento	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Sacramento - Clay	A2-6	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-6	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-6	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.

as of 8/26/2008

Van Ness Avenue BRTS
BOE-Hydraulics Comments

	Alternative 2		Alternative 3		Alternative 4	
	DWG	Comment	DWG	Comment	DWG	Comment
Clay - Washington	A2-7	No sewer on street	A3-7	No sewer on street	A4-7	No sewer on street
Washington - Jackson	A2-7	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-7	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-7	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Jackson - Pacific	A2-7	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-7	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-7	Sewer located in the center of the street ROW. Platform is located above Sewer. Sewer may need to be relocated.
Pacific - Broadway	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Broadway - Vallejo	A2-8	Sewer located west of the existing median. No Impact.	A3-8	Sewer located west of existing median. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located west of existing median. Landscaping and platform are located above Sewer. Sewer may need to be relocated.
Vallejo - Green	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Green - Union	A2-8	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-8	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-8	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Union - Filbert	A2-9	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-9	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-9	Sewer located in the center of the street ROW. Landscaping & Platform are located above Sewer. Sewer may need to be relocated.
Filbert - Greenwich	A2-9	Sewer located in the center of the street ROW. Proposed landscaping is located above Sewer. Sewer may need to be relocated.	A3-9	Sewer located in the center of the street ROW. Bus Lanes are located above Sewer. Bus Lanes will require Muni ROW drainage. Any SFPUC maintenance, repair or replacement of line will require bus lane shutdown.	A4-9	Sewer located in the center of the street ROW. Landscaping is located above Sewer. Sewer may need to be relocated.
Greenwich - Lombard	A2-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.	A3-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.	A4-9	Sewer located in the center of the street ROW. Landscaping is located adjacent to (E) Sewer. Sewer may be impacted.

as of 8/26/2008

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7g-1	Comments out of date. These are comments on earlier drawings. Discussions with SFDPW hydraulics and SFPUC took place through TAC meetings before the release of the Draft EIS/EIR. Potential impacts of the project on the sewer can be found in Section 4.6 of the EIS/EIR. Further discussions between SFMTA, SFPUC, and DPW will continue through the design phase of the project.

Van Ness Avenue BRT
LPA Selection Framework

PRELIMINARY DRAFT

NO.	EVALUATION SUBCRITERIA	DEFINITIONS/MEASURES OF EFFECTIVENESS	SOURCE (ASSUMPTIONS)	
A	**TRANSIT OPERATIONS/PERFORMANCE**			
1	Transit travel time	Minutes of travel time	VISSIM microsimulation	
		Shortest pedestrian crossings, limited to 3 to 4 lanes with wide accessible pedestrian refuge islands may result in shorter ped crossing times overall, increasing traffic throughput.		A-7h-1
2	Reliability	Travel time covariance	VISSIM microsimulation	
3	Vehicle operational safety	Service impact of breakdown (qualitative)	SFMTA operator survey	
		Operator survey (considers issues such as # of		
		conflicts (pkg/right turns/bikes), inconsistent door		
		operation, head-on approaches - (qualitative)		
4	Attract/retain transit riders	Systemwide transit ridership	SF CHAMP	
B	**TRANSIT RIDER EXPERIENCE**			
5	Waiting experience	Platform crowding (above or below threshold)	Non-motorized transportation	
		No consideration of trees/landscape as contributing to the transit rider experience	analysis	A-7h-2
		ADA: 14 feet wide platforms provide adequate room for maneuvering to / from transit vehicles and for seating for waiting for those who cannot stand for long periods.		A-7h-3
		Size of buffer between platform and traffic	Engineering drawings	
		ADA: 4 feet wide pedestrians islands are not at all accessible or appropriate. At least 5 feet must be provided at crosswalks in all cases - no exceptions. Otherwise the design scheme fails from an accessibility and pedestrian safety standpoint.		A-7h-4
6	In-vehicle experience	Lane weaving (number of lane transitions)	Engineering drawings	
		Load at maximum load point (above or below threshold)	Ridership/platform designs	
7	Security	Ease of enforcing POP	SFMTA	
		ADA: Having a clearly defined POP may help wayfinding and use of facilities by persons who are blind or who have low vision.		A-7h-5
C	**ACCESS AND PEDESTRIAN SAFETY**			
8	Pedestrian crossing experience	Average refuge width	Engineering drawings	
	exposure	**ADA: 14 feet wide refuge / platforms provide adequate room for accessible maneuvering to / from transit vehicles and detectible and accessible pedestrian refuge islands. Accessible pedestrian signals and other wayfinding elements for pedestrians who are blind or have low vision are a must in order to find the platforms.**		A-7h-6
		Average crossing distance	Engineering drawings	
		ADA: 14 feet wide refuge / platforms provide the shortest accessible pedestrian crossing distances (and therefore the quickest, even using 2.8 fps ped speed), breaking up individual crossings to 3 and no more than 4 lanes typically provided that curb bulbs are also provided at crosswalks.		A-7h-7
		# of round-trip traffic ventures	ARUP	
		average pedestrian crossing time		A-7h-8
	provides adequate sight distances			
9	ADA accommodation	Platform width	ARUP	
		ADA: 14 feet wide platforms provide adequate room for accessible maneuvering to / from transit vehicles and for seating for waiting for those who cannot stand for long periods. Having both inbound and outbound vehicles on a shared platform makes use by persons with disabilities vastly better as compared to the other options, especially the split narrow island option.		A-7h-9
		path of travel/intersection/returns/median-ped refuges		A-7h-10
10	Quality of Bicycle Access	Number and types of vehicle movements in conflict	Engineering drawings	
		with bikes		
D	**URBAN DESIGN/LANDSCAPE**			
11	Street identity	Consistency of median footprint (# of plan views)	Engineering drawings	
		Consistency of streetscape features (qualitative)	Visualizations	
		provide adequate lighting for all modes		A-7h-11
12	Quality of landscape	Edge-area ratio of landscape	Engineering drawings	
		Number of healthy existing trees preserved	Engineering drawings/landscape	
		impacts to trees if preserved (severe pruning requirements, etc.)	design criteria	A-7h-12
13	Quality of landscape	Square feet of permeable surfaces/landscape	BMS Report/Landscape Plan	
E	**VEHICLE CIRCULATION AND PARKING**	**(also account for affect on adjacent street network)**		A-7h-13
14	Average person-delay	Average total intersection person-delay	VISSIM microsimulation	
15	Person-throughput	Average persons per lane per hour on Van Ness Avenue	SF CHAMP	
16	Accommodate traffic circulation	Average intersection LOS in Van Ness corridor	VISSIM microsimulation	
	and access	# of new turn restrictions, including trucks	Engineering drawings	
		# of conflicts between vehicles with ped/bike/BRT		A-7h-14
17	Parking opportunities	Net change in on-street parking capacity by segment	Engineering drawings	

		ADA: Schemes that eliminate or reduce accessible on-street parking and accessible on-street passenger loading zones must propose how those spaces will be maintained for each affected business / block.		A-7h-15
	provides adequate sight distances			A-7h-16
	provides for delivery of goods & services to local businesses.			A-7h-17
F	ENVIRONMENTAL EFFECTS			
18	Air pollutant emissions	# of cases of increased CO levels above threshold of significance	Traffic operations/Air quality	
		No consideration of the environmental impact of removing mature trees, and the noise impact of removing mature trees	impacts analysis	A-7h-18
		GHG emission	SF CHAMP/air quality impacts	
			analysis	
19	Energy impact	Fuel consumption (function of VMT)	Energy impact analysis	
20	Noise impacts	# of noise impacts (increase in noise to sensitive receptors	Noise impact analysis	
		above significance threshold		
		ADA: Schemes with lower ambient noise are better for pedestrians who are blind or have low vision. Hearing traffic patterns clearly and accessible pedestrian signals is aided by this.		A-7h-19
G	COST (CAPITAL/OPERATING)			
21	Total capital cost	$, including construction cost, facility costs, and vehicles	Cost estimates; SFMTA	A-7h-20
		include total project cost - landscape/streetscape, street lights, sewer relocations, sub sidewalk basements, etc…	(facility/vehicles)	
22	Operating cost	$	SFMTA	
23	Maintenance cost	$ cost to maintain vehicles (parts; shuttling)	SFMTA	A-7h-21
		$ cost to maintain runningway	SFMTA/SFDPW	A-7h-22
		life cycle cost of pavement (roadway/BRT lanes) & facilities		
		cost to maintain landscaping, sewers, etc…		
		no consideration of $ cost to maintain trees and landscape - potentially MUCH greater than current due to lane closure requirements, keeping trees clear of lines, etc.		A-7h-23
H	CONSTRUCTABILITY/MAINTAINABILITY			
24	Construction duration	Months	Construction staging and	
			phasing plan	
25	Construction intensity	Linear feet of utility relocation/assume of all sewers	Parsons (engineering drawings)	
		(include all types of utilities - water, PG&E, etc.)		A-7h-24
		Include AWSS utilities and Hydrant relocations for ease of maintenance access / related utility work		
26	Ease of access for maintenance	Ease of accessing utilities and runningway for maintenance	SFMTA/SFDPW/PUC	
		(# of special conditions/service interruptions)		
		Ease of access for utility maintenance, repair & future replacement, including AWSS utilities		A-7h-25
		Ease of accessing medians for landscape maintenance		
		Platforms are problematic for street cleaning and require additional resources		
		Additional Bulb outs will be problematic for Mechanical Sweepers		
		Likely to experience additional debris as result of design		
		no consideration of maintenance of landscaping/trees as well!		A-7h-26
27	Ease of access to land uses	Average length/duration of sidewalk closures	Construction staging and	
	during construction		phasing plan	

S drive: CHF: Van Ness Avenue BRT

KEY

ESH Comments
EHY Comments
ADA Comments
BUF Comments
EME Comments
BSES Comments

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7h-1	Minimum pedestrian crossing speeds are incorporated into signal timing for all transportation operations models, including Synchro and VISSIM, wherever feasible. Crossing speeds for each alternative are discussed in Chapter 3.4 of the EIS/EIR. Crossing distance is accounted for through evaluation criteria C-2 in Chapter 10 of the Draft EIS/EIR.
A-7h-2	Tree opportunities on platforms do not vary by alternative, and tees and landscaping are considered for their aesthetic value in Chapter 4.4 Aesthetics/Visual Resources of the Draft EIS/EIR. The number of preserved trees is considered as part of performance indicator F-6 in Chapter 10 of the EIS/EIR.
A-7h-3	The width of platforms are accounted for in performance indicator C-3 in Chapter 10 of the Draft EIS/EIR.
A-7h-4	The LPA proposes medians of at least 6 feet for all crossings except the southern crosswalk at Mission/South Van Ness, a configuration under existing conditions. If one of the other build alternatives had been selected as the LPA, staff would have made efforts to provide a minimum of six foot refuges wherever possible.
A-7h-5	This guidance will be used during the design phase, and does not vary by alternative.
A-7h-6	The width of platforms and refuges are accounted for in performance indicators B-1, B-2, C-1, and C-3 in Chapter 10 of the Draft EIS/EIR. Accessible pedestrian signals will be included at every intersection as part of the project description (see Chapter 2 of the Draft EIS/EIR).
A-7h-7	Please see Master Response #13 for a summary of how crossing conditions on Van Ness Avenue would improve with implementation of the proposed project. The Universal Design discussion in Section 3.4 discusses crossing distance to refuges for all of the build alternatives, including the LPA. Build Alternative 3 would have refuges off-center, which means that it would be closer from one side of the street while farther from the other when compared with the other build alternatives, including the LPA. Under the LPA, crossings would not be more than 3 lanes to reach a minimum 6 foot pedestrian refuge (often 9-11 feet) with only a few exceptions.
A-7h-8	Pedestrian crossing time is accounted for through crossing distance and would not vary significantly between alternatives. Similarly, site distance does not vary significantly between alternatives. Please see Master Response #13 for a summary of how crossing conditions on Van Ness Avenue would improve with implementation of the proposed project.
A-7h-9	Please see Chapter 10 of the Draft EIS/EIR and the LPA report for the analysis supporting the staff recommended LPA. Width of platforms is accounted for in performance indicators B-1, B-2, and C-3 in Chapter 10 of the Draft EIS/EIR. As noted in the Universal Design analysis in Chapter 3.4 having shared platforms in some locations but not others, as under Build Alternative 4, could make the system less intuitive by having

a less consistent design. This is captures through performance indicator C-3 that looks at universal design performance for each of the Build Alternatives, including the LPA.

A-7h-10 These criteria are covered in the EIS/EIR under the performance indicators as part of Access and Pedestrian Safety (Section 10.2.4.3), particularly performance indicator C-3 which looks at universal design.

A-7h-11 Street lighting that meets Caltrans standards as well as pedestrian lighting are included for all build alternatives, including the LPA, and thus do not differentiate between them.

A-7h-12 Performance indicator F-6 in Chapter 10 of counts removed trees, including consideration of pruning requirements. This indicator is a proxy for the number of severely pruned trees. Chapter 9 of the Draft EIS/EIR reflects increased maintenance costs for all of the build alternatives, and is represented through performance indicator G-3.

A-7h-13 Evaluation Criteria E-3 reflects LOS performance at all 139 intersections in the traffic study area, including parallel streets to the east and west of Van Ness Avenue.

A-7h-14 Bicycle and pedestrian conflicts are accounted for through performance indicators C-3 and C-4 in Chapter 10 of the Draft EIS/EIR.

A-7h-15 Section 3.5 of the Draft EIS/EIR (Parking) describes the approach to replacement of all color curb parking spaces. Wherever possible, the color spaces will be replaced on the same block or an immediately adjacent alley or cross street. Performance indicator F-5 looks at the number of parking opportunities, and is a proxy for the number of loading zones provided.

A-7h-16 The project is within Caltrans right of way, and therefore the project is following Caltrans standards for sight distances. At the locations where Caltrans standards are unable to be met, the project will secure approval from Caltrans.

A-7h-17 Changes in parking supply, including color loading zones that encapsulate commercial loading, are accounted for in performance indicator F-5 in Chapter 10 and are further described in Section 3.5 of the Draft EIS/EIR.

A-7h-18 Removal and replacement of trees is a factor considered in the selection of the LPA, as discussed in Section 10.2.4.6 Environmental and Social Effects. See Master Response #7 regarding tree removal and planting opportunities. As explained in Master Response #7, a comprehensive Tree Removal Evaluation and Planting Opportunity Analysis was undertaken in fall 2012 to identify the maturity and health of trees in the corridor and therefore better understand the impacts of tree removal and the opportunities for preserving trees, and the parameters of new tree plantings (BMS, 2013). The analysis took into consideration recent design requirements which affect tree removal and planting opportunities. The EIS/EIR describes tree removals for all alternatives, including the LPA, in Section 4.4.3.4.

All of the build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would result in removal of existing trees. The extent of tree removal differs under each build alternative and the LPA, and detailed information on reasons for tree removal and their condition is presented in Section 4.4 Aesthetics/Visual Resources. Section 4.4.3.4 also describes the planting opportunities under each build alternative, including the LPA. The impact from the removal of existing trees and shrubs would be alleviated under each build alternative, including the LPA, with replacement planting. Increased sidewalk and median tree plantings over existing conditions would result in long-term, beneficial effects to biological resources, with improvements growing over time as plantings mature. Although tree removal impacts of the proposed project do not result in significant biological impacts, incorporation of a median design plan previously described in Section 4.4.4 as mitigation measures M-AE-3 and M-AE-4, in addition to measures I-BI-1 through I-BI-2 described below, would reduce impacts from tree removal.

The center lane configured alternatives would not require removal of all trees, as explained in Section 4.4.3.4. Mature tree canopies provide water quality, aesthetic and carbon off-set benefits. There would be a period of reduced benefits until the new tree plantings grow to maturity, and these benefits would not be fully realized in the event different tree types are selected that provide less canopy than the existing trees that would be removed. However, under each build alternative, including the LPA, any reduced benefits due to smaller tree canopy size would be offset by an overall increase in trees in the corridor.

Under existing conditions, the No Build Alternative, or the build alternatives, trees within the roadway median and/or along the roadway edges have or would have a negligible influence on sound propagation. The distribution of trees is and would be narrow and discontinuous. Furthermore, even for those trees that are densely leaved, the leaves tend to be concentrated at heights well above the paths between traffic noise sources and the nearest noise-sensitive receivers. Only continuous, deep groupings of non-deciduous foliage with relatively densely-packed leaves or needles positioned in the path of sound propagation have the potential to substantially attenuate noise levels.

A-7h-19 All build alternatives, including the LPA (with or without the Vallejo Northbound Station Variant), would have similar ambient noise levels. The staff recommended LPA would involve fewer vehicles on Van Ness Avenue, resulting in lower ambient noise than the no build alternative.

A-7h-20 The construction capital costs shown in evaluation criteria H-1 in Chapter 10 of the Draft EIS/EIR include utility replacements/relocations as necessary due to conflicts caused directly by the BRT project. Most separate, but related projects, such as replacement of the OCS support poles/streetlights do not vary by alternative and are not considered part of the project costs since they would be implemented regardless of Van Ness Avenue BRT. A description of the Van Ness Avenue BRT project and the separate but related projects can be found in Chapter 2 of the Draft EIS/EIR.

A-7h-21 The lifecycle cost of the pavement does not vary by alternative. The capital and maintenance costs (the two components of lifecycle costs) of the facilities are shown in Chapter 9 of the Draft EIS/EIR and are described as performance indicators G-3 and H-1. These indicators are proxies for life-cycle cost.

A-7h-22 Maintenance costs for all facilities, including trees and landscaping, are reflected through performance indicator G-3 in Chapter 10 of the Draft EIS/EIR and is further discussed in Chapter 9 of the Draft EIS/EIR.

A-7h-23 Performance indicator G-3 in Chapter 10 of the Draft EIS/EIR incorporates DPW's cost estimates to maintain trees and landscaping. Further analysis on this is shown in Chapter 9 of the Draft EIS/EIR.

A-7h-24 Performance indicator H-3 in Chapter 10 of the Draft EIS/EIR -- linear feet of utility relocation and curb rebuild -- serves as a proxy for the construction intensity related to other types of utilities. Chapter 4.6 describes the impacts to utilities of each of the build alternatives.

A-7h-25 Comment out of date.

Performance indicator H-1 in Chapter 10 of the Draft EIS/EIR reflects the cost of relocation of all utilities, including AWSS and hydrants. It also includes the costs of platform, bulbout, and street maintenance, including debris. The total construction cost (which includes utility relocations) for the LPA would be $125.6M, between the costs of build alternatives 3 and 4.

Ease of access for utility and landscaping maintenance are reflected in performance indicator G-4 in Chapter 10 of the Draft EIS/EIR. These costs are also included in the maintenance costs shown in Chapter 9 of the Draft EIS/EIR. The LPA (with or without the Vallejo Northbound Station Variant) would have similar ease of access as Build Alternative 4 outside of station locations. Rerouting the vehicles outside the transit lanes for blocks where maintenance is being performed would be possible, and similar to Build Alterative 4. On blocks with stations and blocks where the buses transition towards stations, ease of access would be similar to Build Alternative 3.

A-7h-26 The project team has discussed maintenance with DPW, and determined that the design will have minimal incremental costs to street cleaning because of the low height of the platforms. Costs for additional maintenance of the bulbs are reflected in performance indicator G-4 in Chapter 10 of the Draft EIS/EIR and further reflected in Chapter 9 of the Draft EIS/EIR. The LPA (with or without the Vallejo Northbound Station Variant) would have similar ease of access as Build Alternative 4 outside of station locations. Rerouting the vehicles outside the transit lanes for blocks where maintenance is being performed would be possible, and similar to Build Alterative 4. On blocks with stations and blocks where the buses transition towards stations, ease of access would be similar to Build Alternative 3.

City and County of San Francisco

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Edwin M. Lee, Mayor
Mohammed Nuru, Interim Director

December 13, 2011

Mr. Michael Schwartz
Transportation Planner
San Francisco County Transportation Authority
100 Van Ness Ave., 26th Floor
San Francisco, CA 94102

Subject: DPW Comments to the Draft EIR/EIS for the Van Ness BRT Project

Dear Mr. Schwartz,

Thank you for the opportunity to review the Draft EIR/EIS for the Van Ness BRT Project, and for inviting DPW to be on the Technical Advisory Committee during the environmental process. Throughout the environmental process, DPW has consistently advocated for a project that, in addition to serving its intended purpose for transit, would also:

- Improve the quality of life for the San Francisco residents, **A-7i-1**
- Increase the number of trees while preserving the existing mature trees, **A-7i-2**
- Enhance public access and comply with the ADA, **A-7i-3**
- Easily and cost effectively maintain above ground and below ground infrastructure.

Attach is a compilation of comments that DPW had provided, both internally and directly to the Transportation Authority throughout the planning process. DPW feels that Alternative 2 encompasses most of the attributes listed above, and therefore strongly endorse this alternative. **A-7i-4**

Regardless of the Locally Preferred Alternative that is chosen, I anticipate that there would be an increase in the maintenance costs for DPW. In addition, a maintenance agreement is likely required for DPW to maintain the exclusive MTA right-of-way. I hope that we can work together to explore ideas on how to finance the additional maintenance costs. **A-7i-5**

Please call if you have any questions.

Sincerely,

Mohammed Nuru
Interim Director of Public Works

Attachments1-8

NOTE: Comment Letters A-7i, A-7j, and A-7k are repeat letters for which comments have already been addressed under Comment Letters A-7c and A-7d, which were provided as attachments to Comment Letter A-7i.

Agency Comments on the Van Ness Avenue BRT Project Draft EIS/EIR

Reviewer: San Francisco Department of Public Works

Reviewer's Comment Number	Response
A-7i-1	See Response to Comment A-7a-4.
A-7i-2	All alternatives, including the staff recommended LPA, would be in full compliance with ADA standards.
A-7i-3	All alternatives, including the staff recommended LPA would allow for cost-effective maintenance
A-7i-4	Support for Build Alternative 2 noted. All build alternatives, including the LPA, comply with all of the goals expressed by the commenter. Please see Chapter 10 of the Draft EIS/EIR and the LPA report for analysis supporting the staff recommended LPA.
A-7i-5	Maintenance costs are reflected in Chapter 9 of the Draft EIS/EIR. Cost sharing agreements will be refined as part of the design phase if the project is approved.

NOTE: This letter (in DPW Attachment 5) is the same letter as Letter 7d (Attachment 4). See that letter for comments.

City and County of San Francisco

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Department of Public Works
Bureau of Street Environmental Services
2323 Cesar Chavez Street
San Francisco, CA 94124-1003

Tim Hines, Acting Superintendent

Date: September 4, 2008

To: Kris Opbroek, Project Manager

From: Chris Ellen Montgomery, Assistant Superintendent BSES

Subject: Bureau of Street Environmental Comments, RE: General Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

More details are needed regarding the median design plan, in order to fully evaluate our ability to mechanical sweep. We have had problems with other transportation designs. For example, the 3rd Street Light Rail platform design is problematic- we need to use a Flusher to push the debris out from under the platform before we can remove it.

Depending on platform design, our mechanical sweeping costs may be doubled. Presently, Van Ness is swept at night (there is a 10% pay differential) with minimum impact to vehicle traffic or pedestrians. If the platform is built with an overhang, we might have to use an additional truck driver to operate a Flusher truck. This also increases our use of water. Once the center median/platform was flushed, we would also then need to mechanically sweep it. An overhanging platform provides areas for debris to collect and accumulate despite regular sweeping. Whenever there is an interface between buses and maintenance workers, there is an increased safety risk.

NOTE: Comment Letters A-7i, A-7j, and A-7k are repeat letters for which comments have already been addressed under Comment Letters A-7c and A-7d, which were provided as attachments to Comment Letter A-7i.

NOTE: This letter (in DPW Attachment 5) is the same letter as Letter 7c (Attachment 3). See that letter for comments.

City and County of San Francisco

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Department of Public Works
Bureau of Urban Forestry
2323 Cesar Chavez, Bldg. A
San Francisco, CA 94124

Liz Lerma, Acting Superintendent

August 29, 2008

To: Kris Opbroek
Subject: Urban Forestry review comments regarding the Preliminary Engineering Studies documents dated August 14, 2008, as prepared by Parsons for the San Francisco Transportation Authority.

Urban Forestry General Comments:

1. More details are needed regarding the general landscape plan, in order to fully evaluate the alternatives.
2. While DPW and other agencies have been diligent about commenting on the alternatives from the initial planning phase, these concerns have not necessarily been incorporated into the BRT alternatives currently presented. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.
3. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective. Center islands are problematic, as center lane BRT's would have a huge negative impact on San Francisco's infrastructure and assets: landscaping, irrigation systems and mature trees of significant value. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees.
4. Alternative 2 provides wider sidewalks. Wider sidewalks provide (1) more space for greening along Van Ness, a mayoral priority; (2) would better address storm water management, a crucial PUC issue tied to the maintenance of San Francisco's aging sewer system; (3) increases the regional water system's reliability by putting storm water into the ground, rather than into the sewer system; (4) is environmentally superior because it reduces wastewater discharges to the San Francisco Bay and Pacific Ocean by putting storm water into the ground, rather than into the sewer system; (5) will add more beauty to the cityscape and therefore, (6) increases property values and; (7) are also more pedestrian friendly.
5. Due to the proposed bulb-outs, Alternative2 will provide by far the best curb ramps along this corridor. There are locations where sub-sidewalk basements encroach into the street corner area. Providing bulb-outs will minimize and perhaps eliminate conflicts between curb ramps and sub-sidewalk basements, and thereby will minimize the unit costs for curb ramps, a cost savings to San Francisco.
6. What is the long-term plan for landscape maintenance?

Alternative 2: Side Lane BRT
Sheet A2-1

1. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective.
2. More detail needed RE: proposed landscape areas at Otis and South Van Ness Avenue.

Sheet A2-2 through A2-10

NOTE: Comment Letters A-7i, A-7j, and A-7k are repeat letters for which comments have already been addressed under Comment Letters A-7c and A-7d, which were provided as attachments to Comment Letter A-7i.

1. Alternative 2, The Side Lane BRT is by far the best of the proposed design from an urban forestry perspective.
2. More detail needed RE: proposed landscape areas.

Alternative 3: Center Lanes with Side Median BRT

Sheet A3-1 through A 3-6

1. Raised island platforms do not allow for tree planting.
2. Center bus lanes may require bus lane closures to perform landscape maintenance.
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A3-7

1. Will require removal of a signature tree, the Rosa Parks Memorial Tree, which will likely go to the Board of Appeals, with much public opposition expected.
2. Raised island platforms do not allow for tree planting.
3. Center bus lanes may require bus lane closures to perform landscape maintenance.
4. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees
5. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A3-8

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A3-9

1. Raised island platforms do not allow for tree planting.
2. Center bus lanes may require bus lane closures to perform landscape maintenance.
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A3-10
1. More detail needed RE: proposed landscape areas.

Alternative 4: Center Lanes BRT with Left Side Loading / Center Median

Sheet A4-1 through A4-6
1. Raised island platforms do not allow for tree planting.
2. Center bus lanes require bus lane closures to perform landscape maintenance.
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees.
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A4-6
1. Raised island platforms do not allow for tree planting.
2. Center bus lanes require bus lane closures to perform landscape maintenance.
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees.
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A4-7
1. Will require removal of a signature tree, the Rosa Parks Memorial Tree, which will likely go to the Board of Appeals, with much public opposition expected.
2. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees.
3. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.

A4-8 through A4-10
1. Raised island platforms do not allow for tree planting.
2. Center bus lanes require bus lane closures to perform landscape maintenance.
3. Center bus lanes will require the removal of all trees, which will require a tree removal permit, which will likely go to the Board of Appeals, with much public opposition expected. The TA has not discussed the removal of mature trees at the meetings with the public. Removal of mature, established trees is in direct conflict with the greening goals of the City of San Francisco. There will be enormous public opposition to the removal of 150 mature median trees.
4. The concept designs presented to the public are misleading in terms of where and what type of landscaping would be possible.