City of Brisbane
Agenda Report

TO: Honorable Mayor and City Council

FROM: Community Development Director via City Manager

SUBJECT: **Brisbane Baylands Planning Applications (Concept Plans, Specific Plan Case SP-01-06, General Plan Amendment Cases GP-01-06/GP-01-10) and related Final Environmental Impact Report (SCH #2006022136) – Traffic, Noise, Air Quality, GHG Emissions and Related Policy Issues**

DATE: Meeting of January 24, 2017

Introduction:

Tonight's public hearing focuses on addressing issues related to traffic and circulation, as well as to noise, air quality, greenhouse gas emissions, and related policy issues for the City Council's consideration. Future hearings will be organized around the environmental resource topics included in the Brisbane Baylands EIR. The public hearing schedule is attached for reference purposes.

Discussion:

TRAFFIC AND CIRCULATION

Traffic and transportation-related issues for the Baylands include the impacts of construction and operations-related traffic on roadways and highways, transit, bicycle and pedestrian circulation, and parking and freight loading. Transportation-related impacts were assessed in the EIR for each of the four development scenarios under weekday AM and PM peak hour periods for existing and cumulative[1] conditions. Impacts of the Developer Sponsored Plan-Entertainment Variant (DSP-V) scenario were also examined for adding event-related traffic to weekday PM peak hour traffic. These analyses can be found in Section 4.N of the Baylands Draft EIR.

Pursuant to the requirements of CEQA, the EIR evaluates several different scenarios for purposes of evaluating traffic impacts. These include:

A. Existing plus Project: This scenario assumes adding proposed Baylands-generated traffic to the existing roadway and highway system. This scenario assumes no additional roadway improvements, nor does it take into account additional traffic resulting from

[1] Cumulative conditions represent year 2030 conditions that include projected background traffic and transit trips (generated by growth from other nearby development projects and regional travel demand) and planned roadway network improvements.

new development in the local area. While this analysis is required pursuant to CEQA, it does not realistically portray future conditions, particularly in this case where significant new development (Executive Park, Schlage Lock, Candlestick/Hunter's Point) is approved but unbuilt.

B. Cumulative Without Project: This scenario assumes no future Baylands development or transportation improvements and a future cumulative condition including existing traffic plus expected future traffic resulting from new projects over time and increased background traffic, as well as other planned and/or reasonably foreseeable regional transportation improvements.

C. Cumulative With Project: This scenario assumes the addition of Baylands-generated traffic at buildout in a cumulative future condition that includes existing traffic plus expected future traffic resulting from new projects over time and increased background traffic. This cumulative future condition also assumes completion of transportation improvements associated with the Baylands, as well as other planned and/or reasonably foreseeable regional transportation improvements.

Comparing "Cumulative With Project" to "Cumulative Without Project" best illustrates the traffic impacts of the Baylands upon buildout and the discussion in this staff report focuses primarily on this analysis.

Technical Considerations

There are numerous technical considerations that are relevant to understanding the traffic study's analysis and conclusions and these are briefly discussed below. They are discussed in more detail in the October 13, 2015 Planning Commission report on this topic. This report is available for review at the Brisbane Community Development or on the City's website at:

http://brisbaneca.org/sites/default/files/10-13-15%20Baylands%20Public%20Hearing%203.pdf

Brisbane Level of Service Standards

Traffic operations are typically described in terms of "Level of Service" (LOS), which considers the effect of traffic speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, and convenience. LOS is generally measured in terms of roadway capacity and vehicular delay[2], and is described using a scale ranging from A to F, with LOS A representing free-flow and LOS F indicating over-capacity conditions with substantial congestion. Brisbane General Plan Policy 38.1 sets LOS D as the City's standard (except for the intersections of Bayshore Boulevard at Old County Road and at San Bruno Avenue, which have a standard of LOS C).

[2] Delay is defined as the time spent by a vehicle at an intersection that is directly associated with the traffic control device (i.e., a stop sign or a traffic signal). Delay estimates provide a meaningful measure of driver discomfort and frustration, fuel consumption, and lost travel time.

Intersections Analyzed in the EIR

The eighteen intersections analyzed in the EIR were selected based on proximity to the Baylands, location on key access roads, and the likelihood that they could be adversely affected by Baylands-related trips. In determining which intersections to analyze, Brisbane incorporated input from San Francisco, Daly City, and San Mateo County. The following intersections were analyzed (see Attachment 1 for a map of these intersections):

- Geneva Avenue & Bayshore Boulevard
- Guadalupe Canyon Parkway & Bayshore Boulevard
- Valley Drive & Bayshore Boulevard
- Old County Road & Bayshore Boulevard & Tunnel Avenue
- San Bruno Avenue & Bayshore Boulevard
- Sierra Point Parkway & US 101 Northbound Ramps
- Lagoon Way & Tunnel Avenue
- Lagoon Way & Sierra Point Parkway
- Beatty Road & Alana Way
- Harney Way & Alana Way & Thomas Mellon Drive
- Jamestown Avenue & Third Street
- Tunnel Avenue & Bayshore Boulevard
- Blanken Avenue & Tunnel Avenue
- Blanken Avenue & Bayshore Boulevard
- Sunnydale Avenue & Bayshore Boulevard
- Geneva Avenue & Carter Street
- Geneva Avenue & Mission Street
- E. Market Street & Orange Street

Freeway mainline operations were also evaluated along the following four segments, which were selected due to proximity to the Baylands and the likelihood the segment could be adversely affected by a substantial number of Baylands-related trips:

- US 101 northbound—between Sierra Point Parkway and Harney Way
- US 101 northbound—between Harney Way and Third Street/Bayshore Boulevard
- US 101 southbound—between Third Street/Bayshore Boulevard and Alana Way
- US 101 southbound—between Alana Way and Sierra Point Parkway

Cumulative Traffic Conditions

As noted previously, the analysis of cumulative conditions assumes completion of certain planned and reasonably foreseeable transportation improvements. The cumulative traffic analysis prepared in the EIR assumes that the roadway improvements required as conditions of approval and mitigation measures in the EIRs prepared for the Bayview Hunters Point Redevelopment Plan, the Visitacion Valley Redevelopment Program, the Candlestick Point-Hunters Point Shipyard Phase II Development, and the Executive Park Development Plan would be developed concurrent with development of those projects. Should these approved projects not be developed, the associated transportation improvements would not be constructed. However, the traffic anticipated to be generated by those projects also would not occur.

Theoretically, if nearby developments do not proceed, but proposed Baylands development does, the mitigation measures set forth in the EIR would be the same as those identified for Existing Plus Project conditions. In addition, Baylands development would still be required to meet the performance standards set forth in the City's General Plan, as well as the mitigation measures set forth in the EIR, even in the absence of roadway improvements anticipated to be constructed by other approved development projects in the area. However, since other approved projects in the Baylands area are, in fact, proceeding toward development, mitigation measures for cumulative conditions should be used as the basis for requirements to be imposed on development within the Baylands.

Two regional roadway improvements (Bayshore Avenue and Sunnydale Avenue intersection improvements and Harney Way widening) are currently being designed to accommodate the travel demand associated with areawide projects in both San Francisco and San Mateo Counties. Completion of these improvements is anticipated by 2030, and is thus included in the traffic analysis under future Cumulative without Project conditions.

The following improvements would be completed by Brisbane and San Francisco, either directly or through other development project approvals, and are assumed in the EIR's cumulative transportation analysis:

- **Bayshore Boulevard and Tunnel Avenue Intersection** – The Visitacion Valley Redevelopment Program calls for improvements to signal timing plan.
- **Blanken Avenue and Tunnel Avenue Intersection** – The Candlestick Point-Hunters Point Shipyard Phase II Development Plan calls for restriping of lanes and additional turn lanes. The Visitacion Valley Redevelopment Program calls for additional turn lanes and signalization.
- **Bayshore Boulevard and Blanken Avenue Intersection** – The Visitacion Valley Redevelopment Program calls for additional turn lanes.
- **Bayshore Avenue and Sunnydale Avenue Intersection** – The Visitacion Valley Redevelopment Program calls for extending the southbound left-turn pocket, restriping the intersection to add turn lanes, and modifying signal timing.

- **Harney Way Widening** – The existing four-lane Harney Way is to be widened as part of the Candlestick Point-Hunters Point Shipyard development.
- **Geneva Avenue/Harney Way Extension** – Geneva Avenue would be extended east to meet Harney Way as part of implementation of the Bi-County study, including a fair share payment from Baylands development.
- **New US 101 Interchange at Geneva Avenue/Harney Way** – In conjunction with the extension of Geneva Avenue, the existing interchange would be redesigned as part of implementation of the Bi-County study, including a fair share payment from Baylands development.

EIR Analysis

Existing Conditions

In general, each of the 18 intersections studied in the EIR currently operate at acceptable levels of service (LOS A, B, or C), with only the San Bruno Avenue and Bayshore Boulevard intersection operating at LOS D.

Each of the 4 freeway segments studied currently experience LOS E or LOS F conditions during the morning and afternoon commute periods, with the segment of US 101 southbound between Third Street/Bayshore Boulevard and Sierra Point Parkway experiencing LOS E conditions during the AM and PM peak hours.

Cumulative Conditions

Cumulative analysis of Baylands-related traffic impacts evaluated the addition of traffic from proposed Baylands development under each of the four development scenarios to projected year 2030 traffic conditions including approved projects in Brisbane, San Francisco, and Daly City and their associated required traffic improvements.

A total of 14 of the 18 intersections studied in the EIR within Brisbane and adjacent communities would fail to achieve applicable LOS standards[3] by 2030 as the result of reasonably foreseeable development projects ***even if no development would occur within the Baylands.*** These include the following intersections:

- Geneva Avenue and Bayshore Boulevard
- San Bruno Avenue and Bayshore Boulevard
- Sierra Point Parkway and US 101 Northbound Ramps

[3] Traffic operations are typically described in terms of "Level of Service" (LOS), which is a qualitative measure of the effect of several factors on traffic operating conditions, including speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, and convenience. It is generally measured quantitatively in terms of vehicular delay[3] and described using a scale that ranges from LOS A to F, with LOS A representing essentially free-flow conditions and LOS F indicating over-capacity conditions with substantial congestion and delay. Draft EIR Table 4.N-1 presents the relationship between LOS and delay for signalized and unsignalized intersections.

Brisbane General Plan Policy 38.1) set for a minimum standard of LOS D (except for the intersections of Bayshore Boulevard / Old County Road [signalized] and Bayshore Boulevard / San Bruno Avenue [unsignalized], which have a standard of LOS C).

- Lagoon Way and Tunnel Avenue
- Lagoon Way and Sierra Point Parkway
- Beatty Road and Alana Way
- Tunnel Avenue and Bayshore Boulevard
- Blanken Avenue and Bayshore Boulevard
- Sunnydale Avenue and Bayshore Boulevard
- Geneva Avenue and Carter Street
- Geneva Avenue and Mission Street
- E. Market Street and Orange Street

Adding Baylands traffic to year 2030 cumulative traffic would increase traffic congestion at these intersections, and cause two additional intersections to fail to meet applicable LOS standards:

- Old County Road and Bayshore Boulevard & Tunnel Avenue
- Jamestown Avenue and Third Street

While reduced intensity alternatives would reduce traffic generation compared to the DSP and CPP scenarios, 14 or more of the 18 area intersections studied in the EIR would still fail to meet applicable LOS standards. Of the alternatives analyzed in the Baylands EIR, the Renewable Energy Generation Alternative would provide the greatest reduction in Baylands traffic generation compared to the four development scenarios. However, even development consistent with the Renewable Energy Generation Alternative would not achieve the 1994 General Plan's LOS standards.

Recommended Mitigation Measures

For each of the significant impacts of Baylands development on roadway intersections and freeway on/off ramps, EIR mitigation measures require specific improvements to be "constructed and accepted for public maintenance prior to occupancy of any development that would (1) result in reducing the intersection to below the acceptable LOS standard, or (2) contribute additional traffic to the intersection if it is already operating below the acceptable LOS standard." In addition, Mitigation Measure 4.N-3f as modified in the Final EIR requires the extension of Geneva Avenue from Bayshore Boulevard to the US 101 freeway and reconfiguration of the US 101 Candlestick interchange be "constructed and accepted for public maintenance prior to issuance of occupancy permits for any site-specific development that would result in reducing the interchange to below the acceptable LOS standard."

As noted in the Draft EIR, many of the intersections that Baylands-generated traffic would affect are within San Francisco or Daly City. In such cases, although improvements to be constructed by the Baylands development applicant to mitigate traffic impacts can and should be adopted by those agencies under CEQA, the City of Brisbane has no authority to impose these requirements on Daly City or San Francisco. Recognizing that Brisbane cannot compel other agencies to implement mitigation improvements to be paid for and constructed by the applicant according to

their agency's standards, the EIR concludes that impacts requiring implementation of mitigation measures outside of Brisbane jurisdiction are significant and unavoidable. In addition, due to existing development and light rail improvements, a number of physical improvements needed to mitigate impacts of Baylands-generated traffic and traffic from cumulative projects cannot be physically constructed. Thus, the EIR concludes that impacts at the following intersections outside of Brisbane are significant and unavoidable under each of the four development scenarios analyzed in the EIR:

- Harney Way and Alana Way and Thomas Mellon Drive
- Jamestown Avenue and Third Street
- Tunnel Avenue and Bayshore Boulevard
- Blanken Avenue and Tunnel Avenue
- Blanken Avenue and Bayshore Boulevard
- Sunnydale Avenue and Bayshore Boulevard
- Geneva Avenue and Bayshore Boulevard
- Geneva Avenue and Carter Street
- Geneva Avenue and Mission Street

EIR Mitigation Measure 4.N-4 requires Brisbane's participation in constructing and funding regional transportation improvements identified in the San Francisco / San Mateo Bi-County Bi-County Transportation Study[4] to account for existing and projected background traffic, as well as traffic from the Baylands and other proposed and approved development projects in the area. The Bi-County Study includes provisions for development projects in San Francisco, Daly City, and Brisbane (including the Baylands) to pay their fair share toward regional transportation improvements included in the Bi-County Study. EIR Mitigation Measure 4.N-4 also ties development of the Baylands to the availability of Geneva Avenue extension and Candlestick interchange improvements.

Mitigation Measure 4.N-10 sets standards for provision of pedestrian facilities within the Baylands, while Mitigation Measure 4.N-11 sets requirements for provision of trails and bicycle accessibility.

Measures to reduce the impacts of construction activities within the Baylands on area roadways are set forth in Mitigation Measure Mitigation Measure 4.N-12. Transportation demand management requirements are set forth in compliance with the C/CAG Congestion Management

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[4] The Bi-County Study was originally undertaken in 2001 to anticipate and address development-related transportation challenges expected to occur along the San Francisco / San Mateo County line. The study was updated in 2012 to reevaluate transportation improvements needed to address future growth demands. The roadway needs that would be generated by traffic from key development projects in San Francisco (Hunters Point Phase 2, Candlestick Point, Visitacion Valley/Schlage Lock, Executive Park), Daly City (East Daly/Cow Palace), and Brisbane (Baylands) were incorporated into the Bi-County Study's analysis. The 2012 draft plan outslines a 20-year, $548 million improvement program including the Geneva Avenue extension, US 101 Candlestick interchange reconfiguration, bus rapid transit line, Bayshore Caltrain station reconfiguration, and bicycle/pedestrian improvements.

Plan in Mitigation Measure 4.N-13. Standards for the provision of loading areas are set forth in measures to reduce the impacts of construction activities within the Baylands on area roadways are set forth in Mitigation Measure 4.N-17.

Transit Impacts

The contribution of proposed Baylands development to transit volumes is described below.

- ***BART:*** The additional transit ridership resulting from proposed Baylands development scenarios would contribute to regional train transit volumes that exceed capacity on BART toward the East Bay and on BART south of the Baylands. The contribution of Baylands development would represent less than 2 percent of the forecasted *increase* in transit demand.
- ***Caltrain:*** Baylands development would generate a substantial increase in Caltrain ridership, ranging from about 6,000 daily boardings under the DSP and DSP-V scenarios to over 10,000 daily boardings under the CPP and CPP-V scenarios. In addition, ridership demand at the Bayshore Station would be generated by the planned Candlestick Point-Hunters Point Shipyard project, while improved connectivity between Bayshore Boulevard and the Bayshore Station would allow for increased use of the Bayshore Station to accommodate transfers from the Muni T-line and San Bruno Avenue bus lines. Thus, given the increased ridership demand, changes to Caltrain operations would be required.
- ***San Francisco Muni:*** Trips associated with Baylands development would contribute to total transit volumes exceeding Muni's capacity. The Baylands' contribution to cumulative transit ridership represents between 17 and 25 percent of the forecasted growth in transit ridership at the southern end of the Muni T-Third Line.
- ***SamTrans:*** Only 1 percent of Baylands transit riders are anticipated to use SamTrans service. Given the projected low ridership on SamTrans, these riders could be accommodated with existing service.

Although each proposed development scenario would generate a substantial increase in transit demand on Caltrain and Muni, convenient access to transit stations is generally limited to the northwestern portion of the Baylands. Proposed land uses south of the Geneva Avenue extension and east of the Caltrain line would be located more than one-third mile from those stations, with some areas located over one mile from those stations. Although provision of proposed bus rapid transit (BRT) along the Geneva Avenue extension would accommodate a substantial amount of transit, relying entirely on that line to accommodate transit demand to and from southern portions of the Baylands would be inadequate to accommodate anticipated transit demand.

While EIR mitigation measures call for providing shuttle services to the Bayshore Caltrain and Muni T-Third stations, as well as to the Balboa Park BART station, increasing the proportion of development within one-third mile of the Caltrain and Muni T-Third stations would tend to increase the use of transit and decrease the use of automobiles for home to work trips.

Mitigation Measure 4.N-7 requires payment of a fair share contribution to the San Francisco Municipal Transportation Agency for capital costs needed to address increased ridership demand from proposed Baylands development. This measure also requires maintenance of shuttle service between the Baylands and the Balboa Park BART station. Mitigation Measure 4.N-9 requires shuttle bus service to be provided by Baylands development that provides convenient transit service (maximum 15 minute headways in the peak hour) between uses within the Baylands that

are located more than one-third mile from the Bayshore Caltrain Station or Sunnydale Muni T-Third Station to those stations.

Relevant Brisbane General Plan Policies

The City's adopted General Plan contains a number of policies regarding traffic that are relevant to the Baylands, including:

- *Policy 38:* Maintain a level of service on arterial streets that allows Brisbane residents and businesses to comfortably travel across town and to gain access to U.S. 101.

- *Policy 38.1:* The level of service for all arterial streets within the City shall not be less than LOS 'D' except for the intersections on Bayshore Boulevard at Old County Road and San Bruno Avenue, which shall not be less than LOS 'C.' The two intersections having LOS 'C' shall not be degraded below that level as a result of increased impacts from other intersections within the City and such impacts shall be mitigated as necessary to maintain the LOS 'C' standard at the identified intersections.

- *Policy 39:* Plan for an additional east-west corridor to redirect non-destination traffic away from Bayshore Boulevard and to provide more direct access to U.S. 101.

- *Policy 39.2:* Establish an alternative access route to the Tunnel Avenue overcrossing for emergency vehicles.

- *Policy 52:* Seek opportunities to install and improve transit facilities and establish multi-modal connections.

- *Policy 59:* Provide bicycle access to all areas of the City. Connect Brisbane's bikeway system to the County bikeway network.

- *Policy 182:* Support efforts to reduce vehicle trips and keep smooth traffic flow to the extent that the number of trips and stop-and-start traffic contribute to traffic noise.

- *Policy 194:* Attempt to minimize dependence on automobile travel by encouraging transit, bicycle and pedestrian alternatives and incorporating alternatives to the automobile in land use planning and project design.

- *Policy 197:* Continue to improve existing roadways to reduce congestion in order to reduce emissions generated by "stop-and-go" driving.

- *Policy 198:* Actively participate in and support the development and implementation of transportation system management plans (TSMs) and transportation demand management measures (TDMs).

- *Policy 342:* Mitigate traffic impacts by improved access to public transportation, by construction of street and intersection improvements, and by implementing the measures adopted by the City in Transportation System Management, Transportation Demand Management and Congestion Management Plans.

- *Policy 343:* Develop a pedestrian and bicycle system to reach all areas of the City from the Baylands.

- *Policy 344:* Connect all development within the Baylands with bicycle and pedestrian networks.

Baylands Sustainability Framework

The Sustainability Framework sets forth several recommendations relevant to sustainable transportation, including:

- **Key Performance Indicators**[5]

    1. Develop a Transportation Demand Management Plan that targets achievement of the above GHG goal.

    2. Provide clusters of diverse, multi-use development that provide basic services and amenities[6] in convenient locations within a ¼ to ½ mile radius. The types, intensity, and distribution of Baylands development would provide for encourage walking, biking and non-auto use within this radius.

    3. Provide a bicycle and pedestrian path system to ensure a Level of Service B or better, based on metrics including: safety, accessibility (e.g., obstructions in sidewalk, mid-block access), convenience (e.g., shortest path, minimal wait at intersections), signage and navigation, parking availability and convenience, and comfort.

    4. Show annual progress toward creating a local workforce having an average one-way commute of less than 7.3 miles, which is one-half of the San Mateo County average[7].

    5. Implement electric vehicle, biofuel, and emission-free delivery and fleet vehicles in the commercial sector.

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5 Key Performance Indicators are described in the Sustainability Framework as "a general set of indicators and targets that can be established in the planning phase of the project that set a direction and intention. They are not meant as prescriptive requirements, but as alternate methods may be appropriate to achieving the goals of the Principles."

6 This is defined as having a grocery store, pharmacy, one restaurant per 600 employees, hotel, cultural/art/recreation facility, daycare facility, park space, and trail access.

7 The goal would be achieved through a combination of ride-sharing, electric vehicle charging, bike use, pedestrian pathways, shuttles and connectivity, electric (renewable energy) shuttles, etc.

Key Transportation Issues

While all the issues described above were discussed in detail during the Planning Commission's public hearings and deliberations, several issues that were of particular concern are highlighted below:

Internal Capture of Trips within the Baylands Considerable discussion occurred during Planning Commission hearings regarding the effect on traffic of providing housing and employment opportunities in close proximity. As shown in the EIR's traffic analysis, the placement of employment and housing in close proximity would tend to reduce overall traffic generation onto the roadway and highway system surrounding the Baylands, and would also tend to reduce average trip lengths, reflected in the EIR's conclusions that the traffic impacts associated with the mixed-use DSP would be reduced as compared to the CPP which includes no housing.

Concerns were raised during the public hearings that placing housing near jobs does not guarantee that the residents would be employed locally and therefore drive less. The argument was also made that since a large amount of residential development is proposed adjacent to the Baylands within San Francisco (e.g., Schlage Lock and Candlestick Point-Hunters Point Shipyard), providing housing within the Baylands should not have an appreciable effect on Baylands home-to-work trip lengths, since housing would already be readily available in proximity to employment opportunities within the Baylands.

The EIR traffic analysis utilizes professionally accepted methods of traffic modeling. The trip generation estimates in the EIR are based on generation rates published by the Institute of Traffic Engineering (ITE), which provides nationally studied trip generation rates derived from surveys for a variety of land uses. Because ITE-developed rates are generally based on stand-alone land uses, they typically do not reflect the complex trip patterns that occur in mixed use developments, where a proportion of project-generated traffic does not leave the project site. It is standard professional practice based on empirical studies to adjust trip generation estimates to identify the "internal capture" of trips (e.g., vehicular trips that remain within a project site) expected to result from the mixed-use nature with a diversity of uses.

The methodology for adjustments undertaken in the EIR to account for internal trip capture was the result of a rigorous peer-reviewed study conducted by Fehr & Peers and prepared for the US EPA, based on state, regional, and local data. The methodology developed by Fehr & Peers is recognized industry-wide by transportation engineers as resulting in appropriate trip generation patterns for mixed-use development projects, and was therefore used in the Baylands traffic analysis. The analysis of internal capture for Baylands development accounts three types of trips:

- **Home-based work trips.** These represent trips between home and work, and could be internal to the Baylands only in development scenarios that provide residential and employment-generating land uses. "Internal capture" of a home-based work trip would occur for a Baylands resident in the DSP or DSP-V scenario who both lives and works within the Baylands. Based on the analysis described above, internal capture of home-based work trips was estimated to be 5 percent in the DSP/DSP-V scenarios, with no internal capture of this type of trip in the CPP/CPP-V scenarios.
- **Home-based other trips.** These represent trips between home and other uses, such as retail or school. These trips would occur only in the DSP/DSP-V scenarios. Based on the

analysis described above, internal capture of home-based other trips was estimated to be 16 percent in the DSP/DSP-V scenarios, with no internal capture of this type of trip in the CPP/CPP-V scenarios.

- **Non-home-based trips.** These represent trips between any two uses except for home, such as a trip from work to retail/restaurants or trips between office uses, and could occur in all scenarios. Based on the analysis described above, internal capture of non-home-based trips was estimated to be 39 percent for all scenarios.

Thus, the differences in the number and average length of external trips between the DSP/DSP-V and CPP/CPP-V scenarios result from capture of home-based trips to non-work locations (16 percent) and a modest amount of home-to-work trips (5 percent) within the Baylands.

Public testimony at Planning Commission hearings and several Draft EIR comments argued that providing housing within the Baylands should not influence the average length of home to work trips due to the more than 10,000 housing units approved and proposed within San Francisco to the north. However, regional forecasts (Plan Bay Area) indicate there is an existing shortfall of housing within San Francisco which is only expected to increase over time as job growth continues to outpace housing production. The creation of a substantial number of new jobs within the Baylands absent housing will only exacerbate this situation and increase vehicle miles travelled.

In evaluating and addressing potential transportation impacts, the Commission did not identify the introduction of housing onto the Baylands as an appropriate means to reduce identified transportation impacts associated with the various development scenarios. Rather, the Commission recommended that the maximum permitted building square footage be reduced in order to reduce the project's traffic generation, while acknowledging that unavoidable adverse traffic impacts would still result from a reduced intensity project.

Cumulative Traffic Congestion The EIR analysis demonstrates that highways and local roadways will operate at degraded levels in the future with or without the Baylands, and that the roadway and highway system cannot be improved sufficiently to adequately mitigate poor roadway performance even without development occurring within the Baylands. One of the reasons the Commission recommended a reduced intensity development for the Baylands was to reduce future impacts on an already overburdened transportation network.

Uncertainty over Regional Transportation Improvements There was ongoing concern expressed regarding the cost, complexity and uncertainty of regional transportation improvements that are proposed in the proximate Bi-County (San Mateo/San Francisco counties) area and identified as necessary to support the planned build out in Brisbane, San Francisco, and Daly City. The lack of guaranteed funding for and certainty as to when these regional transportation improvements would be completed were identified as issues. The Commission was concerned about what mechanisms could be put in place to ensure that required transportation infrastructure would be in place as development occurs, the effectiveness of such measures in the future.

Brisbane General Plan LOS Standards The EIR analysis indicates that cumulative regional traffic growth (excluding any Baylands development) will exceed the LOS performance standards established in the 1994 General Plan for all development scenarios and EIR

alternatives. Because future development of any type or intensity of land use would exceed the City's LOS performance standards, permitting any future development within the Baylands would require these standards to be updated.

NOISE

Existing Noise Characteristics

The ambient noise environment of the Baylands is dominated by vehicular traffic on the US 101 freeway and Tunnel Road, and the intermittent rail activity of the Caltrain commuter train. Freeway noise exceeds City noise levels within the eastern portion of the Baylands.

Aircraft flights from San Francisco International Airport (SFO) also contribute to the Baylands noise environment. As evidenced by the high proportion of noise complaints received by SFO from Brisbane residents, single event noise levels from aircraft are a community concern even though Brisbane is outside the 65 dBA noise contour of the airport, which would typically represent an acceptable noise level. Thus, although daily average noise levels meet airport and City standards, single event noise levels represent a nuisance factor within Brisbane.

Noise Impacts

The DSP and DSP-V scenarios propose residential development, which is considered noise-sensitive, as close as 50 feet from the Caltrain tracks. The DSP/DSP-V scenarios also propose hotels just west of US Highway 101 and a school south of Icehouse Hill.

Residential uses closer than 75 feet of the Caltrain tracks would be exposed to noise levels considered normally unacceptable[8] for such uses, while housing between 75 and 150 feet from the Caltrain tracks would be exposed to noise levels considered conditionally acceptable[9]. Therefore, a significant noise impact would occur in locations where residential uses are proposed within 150 feet of the Caltrain tracks in the DSP/DSP-V scenarios.

The 75 dBA noise contour adjacent to the Baylands is located approximately 100 feet from US Highway 101. These noise levels would be considered normally unacceptable for hotel uses, resulting in a significant impact where hotels are proposed within 100 feet of the freeway.

Noise from demolition and construction activities within the Baylands would affect adjacent and nearby existing commercial and residential uses. Existing offsite noise-sensitive uses nearest the proposed demolition and construction activity are the residents of the Northeast Ridge development, residents on San Francisco and Santa Clara Streets in Brisbane and residents on Linda Vista Drive and MacDonald Street in Daly City, and residents on Desmond Street and in the Little Hollywood neighborhood in San Francisco.

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[8] "Normally unacceptable" means that new construction or development should generally be discouraged and that, if new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[9] "Conditionally acceptable" means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.

Vibration Impacts

Based on Caltrans vibration guidelines addressing architectural damage from groundborne vibration, the potential exists in certain locations of the Baylands that development would exceed safety criteria for the protection of fragile older buildings, as well as for newer buildings and result in a significant impact. Although the Roundhouse is an historic structure that is potentially susceptible to vibration impacts, development surrounding the Roundhouse would involve standard construction equipment and would not likely require high-impact equipment such as pile driving. However, if pile driving were to be necessary for construction of proposed buildings near the Roundhouse, construction-related vibration would be significant if pile driving were to occur within 85 feet of the Roundhouse.

Project site development would also result in the exposure of people to vibration from the approximately 86 Caltrain trains running through the Baylands daily. Steel wheeled/steel rail vehicles can generate vibration impacts up to 200 feet from rail lines for residences or any land uses where people sleep, such as hotels and hospitals. For institutional land uses, such as schools and churches, the buffer distance to avoid vibration impacts is 120 feet from the right-of-way.

Therefore, given that the DSP and DSP-V scenarios propose to develop residences within 200 feet of the Caltrain station and mainline track, impacts would be significant.

Vibration Mitigation. Mitigation Measure 4.J-2a, which applies only to the DSP/DSP-V scenarios, requires residential development proposed within 200 feet of the mainline track to be designed to meet vibration performance standards in relation to Caltrain operations. Specific measures to achieve the performance standard set in this Mitigation Measure include one or both of:

- Use of vibration isolation techniques such as supporting the new building foundations on elastomer pads similar to bridge bearing pads;
- Installation of vibration wave barriers. Wave barriers would consist of control trenches or sheet piles, which are analogous to controlling noise with sound barrier. The applicability of this technique depends on the characteristics of the vibration waves.

Mitigation Measure 4.J-2b is intended to provide for protection of the Roundhouse from development that would require pile driving or other construction techniques within 85 feet of the Roundhouse, which is the distance at which vibration damage to the Roundhouse could occur. This measure requires a pre-construction assessment of existing subsurface conditions at the development site and the area between that site and the Roundhouse, as evaluation of the structural integrity of the historic structure before a building permit is issued.

If recommended by the pre-construction assessment, groundborne vibration monitoring to detect ground settlement or lateral movement of historic structures will be required. In addition, construction methods such as, but not limited to, underpinning of foundations of potentially affected structures, would be implemented. In the event construction does not meet applicable performance standards for the protection of historic structures, as determined by the City

Engineer, all impact work is required to cease until corrective measures (e.g., installation of vibration wave barriers) are implemented to reduce ground movement to acceptable levels.

General Plan Noise Policies

- *Policy 183:* Coordinate land uses and construction conditions to minimize noise impacts of the Caltrain corridor and major highway arterials on adjacent land uses.

Key Noise Issues

Amplification of Noise within Brisbane. The concern has been raised that the EIR analysis underestimated noise impacts because it did not take Brisbane's topography and unique acoustical characteristics into account. The common perception of sound being louder or amplified in Brisbane is best explained by the effect of the City's terrain on ambient noise and sound propagation. The hillsides surrounding Brisbane tend to act as a noise barrier for ground-based noise sources,. This tends to reduce background sound levels, and make other sounds more noticeable. In addition, the slope of the valley means that homes in Brisbane, like seats in an amphitheater, have a "good view" of noise sources. The result is that noise in Brisbane propagates more than is typical in a flat community because buildings are less likely to shield noise sources. Thus, noise in Brisbane carries further than it would in communities with rolling topography where hills block the spread of noise or in flat communities where intervening buildings block noise sources. Because the noise model employed in the Draft EIR does not assume any acoustical shielding, the noise levels projected in the EIR are representaitive of noise levels that would be experienced by sensitive receptors in Brisbane.

Pile Driving

The noisiest aspect of construction would be pile driving activities, which may be necessary for the construction of high-rise office or hotel structures, and would generate noise levels of approximately 90 to 105 L_{eq} at a distance of 50 feet. Maximum noise levels from pile driving at Sierra Point were monitored as 91 dBA at a distance of 200 feet. Pile driving and other construction activities would exceed applicable noise standards during construction.

In making its recommendation to the City Council, the Planning Commission noted that the modest increase in Baylands building area it was recommending (net increase of 1-2 million square feet of building area) clustered away from the former landfill would not likely result in substantial pile driving activities. The Commission nevertheless recommended to the City Council all pile driving and/or other extreme noise-generating activities (greater than 90 dBA) be limited to hours between 8:00 a.m. and 4:00 p.m. Monday through Friday, with no extreme noise-generating activity permitted between 12:30 p.m. and 1:30 p.m. weekdays and no extreme noise-generating activities allowed on weekends and holidays. The Commission also recommended that "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration) be required where pile driving activities cannot be avoided.

The Commission further recommended that should the Council consider increasing allowable development intensity within the Baylands above the amount recommended by the Commission,

additional analyses be undertaken to define additional methods of avoiding pile driving and reducing noise from pile driving activities.

AIR QUALITY

Baylands-related air quality issues focus on mobile (transportation-related) sources of air pollutant emissions, which would be the greatest source of project-related emissions. While emissions standards for vehicles are set at the federal and state levels, the City has an important role in helping achieve air quality standards by defining land use patterns, which affect vehicle miles travelled, transit use, and use of non-motorized modes of travel and the resulting amount of mobile source emissions from those vehicles.

Existing Conditions

The Bay Area Air Quality Management District (BAAQMD) and the California Air Resources Board (CARB) operate a regional air quality monitoring network that measures the ambient concentrations of the seven criteria air pollutants. The nearest air quality monitoring station to the Baylands is located on Arkansas Street in San Francisco, approximately 4.2 miles northeast of the Baylands.

The Bay Area is in a "non-attainment" status (exceeding applicable state and/or federal air quality standards) for the following air pollutants: Ozone, PM_{10}, and $PM_{2.5}$. Among the pollutants that are regulated, particulates (PM_{10}, $PM_{2.5}$) represent a serious ongoing health hazard. Exceedances of the state PM_{10} standard have routinely occurred in the San Francisco Bay Area, including Brisbane.

Toxic Air Contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. TACs do not have ambient air quality standards, but are regulated by BAAQMD using a risk-based approach. This approach uses a health risk assessment to provide quantitative estimates of health risks.[10]

The nearest BAAQMD ambient TAC monitoring station to the Baylands is located at 16th and Arkansas Streets in San Francisco. TAC measurements at this station indicate cancer risks associated with TAC concentrations to be similar to those for the Bay Area as a whole.

Air Quality Impacts

The EIR determined that following its construction, the EIR determined that Baylands development would result in a long-term increase in air pollutant emissions, including reactive organic gases (ROG), nitrogen oxides (NOx), particulates smaller than 10 and 2.5 micrns (PM_{10} and $PM_{2.5}$) from a variety of emissions sources, including onsite area sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products, etc.) and mobile on-road sources.

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10 In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk, then the applicant is subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, calculating the increased risk of cancer as a result of exposure to one or more TACs.

As indicated in the Baylands EIR, Baylands development-related operational emissions of ROG, NOx, PM_{10} and $PM_{2.5}$ would exceed the BAAQMD significance threshold for each of the development scenarios analyzed in the EIR. Impacts would therefore be significant, requiring the implementation of mitigation measures. The health risk assessment prepared for the EIR determined that ongoing activities related to Baylands development would not expose existing sensitive receptors to substantial concentrations of toxic air contaminants or respirable particulate matter ($PM_{2.5}$) or significant cancer risk. Analysis was also undertaken to determine whether persons would be subject to substantial levels of toxic air contaminants (TACs), which may lead to adverse health, as the result of Baylands development. The highest hazard index was determined to be well below the BAAQMD significance threshold.

As noted above, air pollutant emissions would be significant and unavoidable for each of the four proposed development scenarios, even with the implementation of all feasible mitigation measures. Air pollutant emissions could be substantially reduced compared to the proposed development scenarios through implementation of lower intensity alternatives, strengthening the transit orientation of onsite uses by concentrating development near the Bayshore Caltrain station, and reducing the amount of retail use within the Baylands to that which can be supported by the local community and freeway travelers.

General Plan Air Quality Policies

- *Policy 193:* As a part of land use development analysis, consider the impacts on air resources that will be generated by a project through mobile sources.

- *Policy 203:* Consider issues of stationary emissions in land use planning and project review.

Key Air Quality Issues

Disparity between Air Pollutant Emissions Estimated for the DSP/DSP-V Scenarios and those Estimated for the CPP/CPP-V Scenarios. Objections were raised to the EIR conclusion that the CPP/CPP-V scenarios result in greater air pollution emissions than the DSP/DSP-V. This conclusion is largely the result of mobile vehicular emissions and the greater amount of vehicle miles travelled in the CPP/CPP-V scenarios as compared to the DSP/DSP-V scenarios.

This result occurs for several reasons. First, as discussed above in relation to internal capture of traffic, the inclusion of residential development in the DSP/DSP-V scenarios will result in an estimated 5 percent of home to work trips remaining within the Baylands. In addition, approximately 16 percent of "home to other" trips, such as for shopping, are also estimated to remain within the Baylands under the DSP and DSP-V. Together, the trips that would remain within the Baylands provide some reduction in vehicle miles travelled as compared to the CPP/CPP-V scenarios, which provide no housing and therefore no opportunities for trip reduction based on proximity of housing to employment or other destinations. The CPP/CPP-V scenarios also have a greater amount of proposed commercial retail use than the DSP/DSP-V scenarios, which results in greater vehicle miles travelled as the result of the following:

- The larger market area needed to support development of the greater amount of retail use in the CPP/CPP-V scenarios; and

- The absence of residential development within the Baylands reduces internal capture of shopping trips, resulting in average longer trip distances than for the DSP/DSP-V scenarios.

GREENHOUSE GAS EMISSIONS

Increases in greenhouse gas (GHG) concentrations in the earth's atmosphere are believed to be the main cause of human contribution to climate change. Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are the principal GHGs. When concentrations of these gases exceed natural concentrations in the atmosphere, greenhouse effects may be magnified.

Existing Conditions

GHG emissions are generated by existing Baylands uses. The BAAQMD Bay Area Greenhouse Gas Model estimates GHG emissions associated with the existing 231,400 square feet of industrial uses generate 2,762 metric tons per year of CO_2e (CO_2 equivalent).

Project Impacts

Analysis of GHG emissions conducted for the Draft EIR concluded that GHG emissions from the DSP/DSP-V scenarios would be below BAAQMD's "efficiency threshold[11]" of 4.6 metric tons of CO_2e per service population per year, and the impact would be less-than-significant.

Subsequent to the June 2013 release of the Draft EIR, the BAAQMD updated its GHG emissions model. The Final EIR includes an updated estimation of Baylands development-related GHG emissions based on the latest version of the CalEEMod model[12]. The updated emission inventory is provided as a text revision in Section 4.F, *Greenhouse Gas Emissions*. GHG emissions under the CPP/CPP-V scenarios evaluated based on the latest version of the CalEEMod model are estimated to be 3.2 metric tons per year per service population, and are below the GHG significance threshold. Consequently, the CPP and CPP-V scenarios would have a less than significant GHG emissions impact. Because the Final EIR determined that GHG emissions for the CPP/CPP-V scenarios would, in fact, be less than significant, implementation of Mitigation Measure 4.F-1 was no longer required under CEQA, and was removed from the Final EIR.

Key GHG Issues

<u>*Use of the BAAQMD Efficiency Threshold vs. Total GHG Emissions Generated.*</u> Some comments received on the Draft EIR and at Planning Commission hearings stated that the analysis of GHG emissions should have been based on total emissions, rather than the BAAQMD's efficiency

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11 The "efficiency threshold" measures CO_2e emissions in relation to service area population (residential + employees), providing the ability to compare the GHG emissions for projects of any size to a single threshold. In this way, small development projects with relatively large GHG emissions could be determined to have significant impacts, while large projects such as General Plans and large-scale development such as the Baylands could be determined to have less than significant impacts based on GHG impacts relative to the size of the project.

12 The **Cal**ifornia **E**missions **E**stimator **Mod**el (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform to quantify air pollutant and GHG emissions associated with both construction and operations of a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in association with California air districts.

threshold. These comments noted that the *total amount* of GHGs that would be emitted by the DSP/DSP-V scenarios would be as much as 50-75 percent more than the GHG emissions of the CPP/CPP-V scenarios.

Although the BAAQMD had considered a *potential* threshold based on total GHG emissions, as a practical matter, such a significance threshold would effectively base significance on the *size* of proposed development projects, rather than the extent of GHG reduction measures being proposed. To focus on the efficiency of proposed developments of all sizes, and provide the ability to require GHG emissions mitigation from development projects of all sizes, BAAQMD identified the service population[13]-based efficiency threshold used in the Baylands EIR. In addition, the use of the BAAQMD efficiency threshold provides a direct connection to statewide GHG reduction efforts pursuant to the provisions of AB 32 and SB 375, as well to regional plans such as Plan Bay Area.

Even though GHG emissions impacts were determined to be less than significant, implementation of air quality and energy resources mitigation measures will serve to further reduce GHG emissions from proposed development. In addition, any measures to reduce air pollutant emissions such as those discussed above, as well as measures to increase renewable energy production will serve to reduce GHG emissions.

Sustainability Framework

The Sustainability Framework includes the following performance indicator relevant to GHG emissions reduction:

> Steady year-on-year progress toward greenhouse gas emissions of 0.282 tons CO2e per employee per year for commuting by 2030.

PLANNING COMMISSION RECOMMENDATION

In making its Baylands recommendation to the City Council, the Planning Commission undertook substantial discussion of the traffic impacts that would result from the development proposed under the DSP/DSP-V and CPP/CPP-V scenarios, and the significant unavoidable impacts that would result from such development. The Commission also engaged in substantial discussion regarding the large-scale regional improvements needed to support such development including the Geneva Avenue extension and Candlestick interchange improvements.

To address traffic and related air quality and GHG issues, the policy framework recommended by the Planning Commission includes the following:

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[13] "Service Population" is an efficiency-based measure used by BAAQMD to estimate the development potential of a general or area plan. Service Population is determined by adding the number of residents to the number of jobs estimated for a proposed project.

- **Reduce the total amount of development to be permitted within the Baylands to provide for a maximum 1-2 million square foot net increase in building area**. By reducing the total amount of development permitted within the Baylands, the effects of future development in relation to projected congestion on area roadways and the US 101 freeway would be reduced.

- **Maintain a transit orientation for new development, including use of the Baylands to enhance access from Central Brisbane to the Bayshore Caltrain Station and other transit services within the Baylands**. Concentrating development in the northwestern portion of the Baylands would maximize the use of the Bayshore Caltrain station, as well as the potential for use of bicycle and pedestrian travel to and from the station. Additional improvements adjacent to the station to enhance its accessibility are also desirable.

- **Require provision of appropriate infrastructure and site amenities for each increment of development within the Baylands by incorporating specific performance standards into the General Plan**. Specific standards to tie the rate of future land development to the availability of needed roadway, bicycle, and pedestrian facilities would minimize future increases in area traffic congestion.

- **Incorporate applicable provisions of the Brisbane Baylands Sustainability Framework into the General Plan**. Incorporating relevant provisions of the Sustainability Framework into the General Plan would strengthen existing General Plan policies aimed at reducing vehicular travel, increasing the use of transit and bicycle/pedestrian modes of transportation, and would also work to reduce emissions of air pollutants and GHGs.

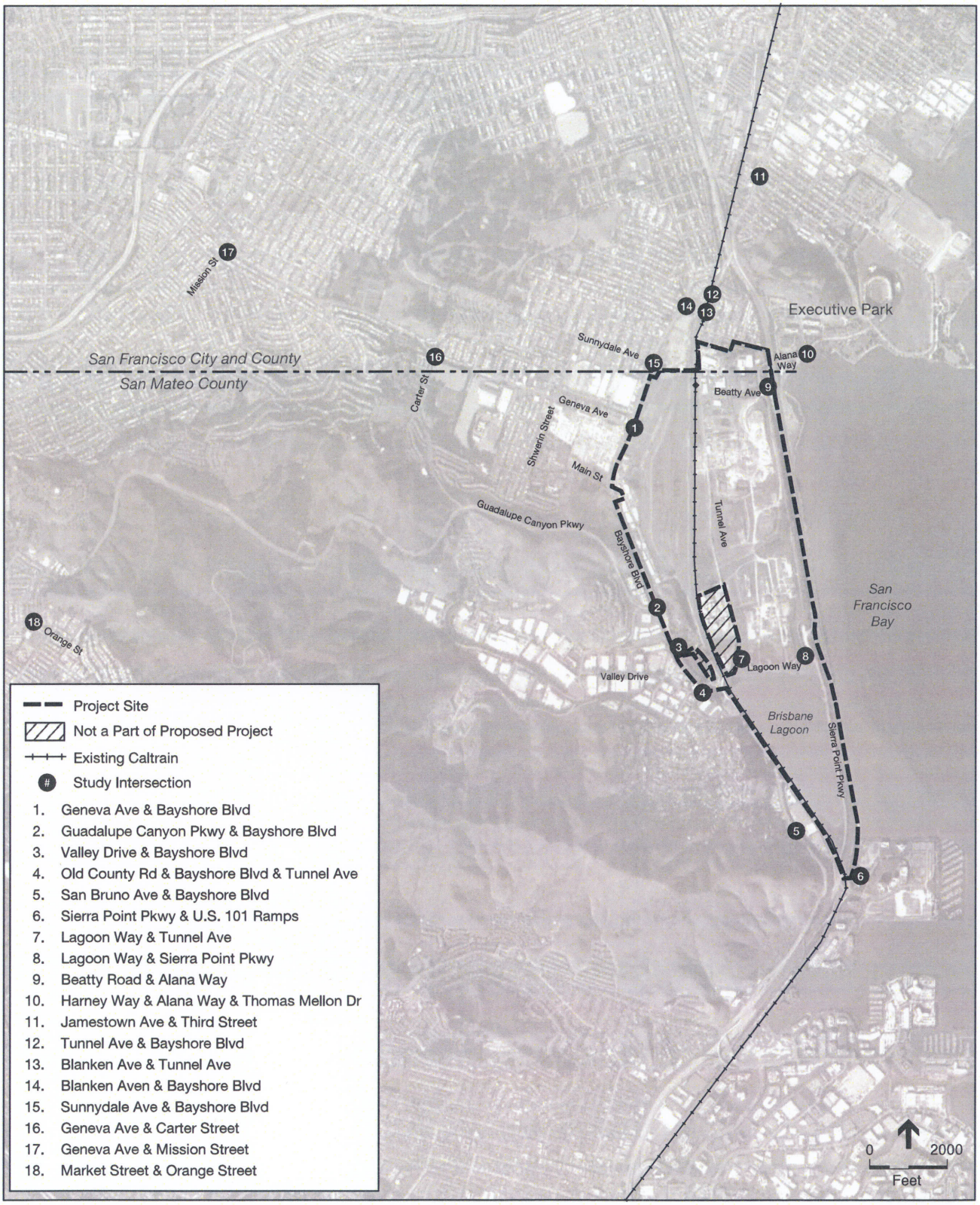
- **Reserve a large portion of the former landfill for renewable energy generation**. Committing a substantial portion of the Baylands to renewable energy generation would reduce burning of fossil fuels needed for electrical generation, and would thereby reduce emissions of air pollutants and GHGs.

Attachments

1. Draft EIR Figure 4.N-3, Location of Intersections Analyzed in the Baylands EIR.
2. City Council Baylands Hearing Schedule

John Swiecki, Community Development Director

Clay Holstine, City Manager



SOURCE: UPC, 2011

Brisbane Baylands . 206069

Figure 4.N-3
Traffic Analysis Locations

Revised (1/17/16) Council Baylands Hearing Schedule

September 29, 2016: Project Overview, EIR Summary, Overview of Planning Commission Recommendation

November 17, 2016: Site Remediation, Title 27 Landfill Closure, and related policy issues

December 15, 2016: Site Remediation, Title 27 Landfill Closure, and related policy issues (continued from November 17, 2016);

January 24, 2017: Traffic, Noise, Air Quality, Greenhouse Gas (GHG) emissions, and related policy issues;

February 16, 2017: Water Supply, Public Services and Facilities, and related policy issues;

March 16, 2017: Other environmental issues and related policy issues;

March 30, 2017: POSSIBLE DATE

April 2017 (week of 4/24, date TBD): Economics, Development Feasibility, Municipal Cost/Revenue, and related policy issues;

May 4, 2017: Land Use, Planning, and related policy issues

June 15, 2017: Applicant and Community Group Presentations

June 2017- TBD: Council deliberations