

PUD-96
Exhibit A, Draft Conditions of Approval

Commons at Pleasanton Gateway
1600 Valley Avenue (south side of the Pleasanton Gateway Shopping Center)
August 14, 2013

STANDARD CONDITIONS OF APPROVAL
Planning

1. The proposed development shall be in substantial conformance to Exhibit C, dated "Received, July 26, 2013," including building floor plans and elevations for three housing types, civil drawings, conceptual yard plans, landscape plans and plant palettes, perspectives from the I-680 freeway, project narrative and project data, recreation center and leasing building, site sections, site plans, and street scenes, single- and multi-family GreenPoint Checklists, and related materials such as the noise analysis and traffic report, on file with the Planning Division, except as modified by the following conditions.
2. To the extent permitted by law, the project applicant shall defend (with counsel reasonably acceptable to the City), indemnify and hold harmless the City, its City Council, its officers, boards, commissions, employees and agents from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside, or void the approval of the project or any permit authorized hereby for the project, including (without limitation) reimbursing the City its attorneys fees and costs incurred in defense of the litigation. The City may, in its sole discretion, elect to defend any such action with attorneys of its choice.
3. All conditions of approval shall be attached to all building permit plan check sets submitted for review and approval, whether stapled to the plans or located on a separate plan sheet. These conditions of approval shall be attached at all times to any grading and construction plans kept on the project site. It is the responsibility of the project applicant/developer to ensure that the project contractor is aware of, and abides by, all conditions of approval. It is the responsibility of the project applicant/developer to ensure that the project landscape contractor is aware of, and adheres to, the approved landscape and irrigation plans, and all conditions of approval.

SPECIAL CONDITIONS OF APPROVAL
Planning

4. The expiration date of this entitlement including the PUD development plan and its conditions shall coincide with the expiration date of the Commons at Gateway Development Agreement, dated August 14, 2013.

5. Prior approval from the Planning Division is required before any changes are made in site design, building design, landscape design, grading, etc. In lieu of a PUD Development Plan modification, the Director of Community Development may authorize the design review process for minor changes to building materials or colors, site and landscape plan modifications, and/or grading/engineering modifications, and for project sign program or modification to the approved sign program.
6. The on-site permit and/or building permit plan check package will be accepted for submittal only after the PUD Development Plan and Development Agreement become effective, generally measured 30 days from the date of the City Council's adoption, unless the project applicant/developer submits a signed statement acknowledging that the plan check fees may be forfeited in the event that the approval is overturned on appeal, or that the design is significantly changed as a result of the appeal. In no case will an on-site and/or building permit be issued prior to the recordation of the Vesting Final Subdivision Map for this development.
7. For the purpose of the following conditions of approval, the term "apartments" shall specifically refer to the 210 multi-family units described under Sheets A1-0 through A1-12, and the term "single-family" units shall refer to the 62, three-story row houses described under Sheets A2-0 through A2-6.1, and to the 35, two story units described under Sheets A-3-0 through A3-5 of Exhibit B. All other conditions shall refer to the overall 307 dwelling unit PUD Development Plan, Exhibit B, dated "Received July 26, 2013."
8. The project applicant/developer shall pay school fees in accordance with the written agreement as required pursuant to the Commons at Gateway Development Agreement.
9. The project shall comply with the current City of Pleasanton Garbage Service recycling and composting programs.
10. The project applicant/developer shall comply with all requirements of the City's Growth Management Ordinance, as described in the Growth Management Agreement for this development.
11. This approval does not guarantee the availability of sufficient water capacity to serve the project beyond the supply of water guaranteed by the credits for 103.5, 5/8-inch meters. Prior to the recordation of a Final Map, issuance of a grading permit, issuance of a building permit, or utility extension approval to the site, whichever is sooner, the applicant/developer shall submit written verification from Zone 7 Water Agency or the City of Pleasanton's Utility Planning Division that water is available for the project. To receive the verification, the project applicant/developer may need to offset the project's water demand.
12. No additions or expansions are permitted to any house or garage in this development.

13. The project applicant/developer shall obtain a Building Permit from the Building and Safety Division any other applicable City permits for the project prior to the commencement of any construction.
14. The project applicant/developer shall provide all initial home buyers with copies of the project conditions of approval and the site development standards for accessory structures.
15. Before each house final, all private yard landscaping and irrigation shall be installed, reviewed, and approved by the Planning Division.
16. Only gas fireplaces, pellet fueled wood heaters or EPA certified wood-burning appliances may be installed inside or outside of the structures covered by this approval.
17. Before a building final and/or a project final, all landscaping shall be installed and reviewed and approved by the Planning Division.
18. The project applicant/developer and/or the development's homeowners association are encouraged to use best management practices for the use of pesticides and herbicides.
19. The project applicant/developer shall submit an updated noise analysis with the first on-site/building permit application demonstrating that the project is in compliance with the noise measures identified in the Addendum to the SEIR for the subject project to the satisfaction of the Director of Community Development.
20. Prior to the issuance of a grading/onsite permit, whichever is sooner, the project applicant/developer shall submit verification from the Federal Aeronautics Administration (FAA), or other verification to the satisfaction of the City Engineer or Chief Building and Safety Official, of compliance with the FAA Part 77 (Form 7460 review) for construction on the project site.

Building Design

21. Prior to receiving a foundation inspection for each apartment building and single-family building, the project applicant/developer shall submit a building pad elevation and foundation setback certification prepared by a licensed land surveyor or registered civil engineer to the Chief Building Official and the Director of Community Development, certifying that the pad elevations and building locations (setbacks) are pursuant to the approved plans, prior to receiving a foundation inspection for the structures.
22. The height of the structures covered by this approval shall be surveyed and verified as being in conformance to the approved building heights as shown on Exhibit B or as otherwise conditioned. Said verification is the project applicant's or developer's responsibility, shall be performed by a licensed land surveyor or civil

engineer, and shall be completed and provided to the Planning Division before the first framing or structural inspection by the Building and Safety Division.

23. Rain gutters from the buildings shall discharge into landscaping planter areas to pretreat the storm water unless the buildings are connected to an on-site filtration system, such as vegetative swales, to pretreat storm water before discharge to the storage ponds on the adjoining City property. These details shall be shown on the plans submitted to the Building and Safety Division for plan check and are subject to the review and approval of the Director of Community Development prior to building permit issuance.
24. The project applicant/developer shall incorporate solar tubes, skylights, and/or other daylighting systems, subject to the satisfaction of the Director of Community Development, within the designs of the recreation building. The method used and plan details shall be incorporated into the plans submitted to the Building and Safety Division for plan check and shall be subject to the review and approval of the Director of Community Development prior to building permit issuance.
25. The project applicant/developer shall install Energy Star appliances, such as HVAC equipment, food preparation equipment, and water heaters in each apartment unit and single-family unit. The appliances and how they adhere to the Energy Star standards shall be stated on the building plans submitted for the issuance of a building permit to the satisfaction of the Director of Community Development.
26. The State of California's Green Building Standards Code, "CALGreen," shall apply, if applicable.
27. The single-family units shall provide an area within the garage for a trash container, except when the container is placed by the private court or street for pick-up by the Pleasanton Garbage Service. The designated area shall be shown on the building permit plans to the satisfaction of the Director of Community Development. If storing the trash container in the garage is not feasible, as determined by the Director of Community Development, the project applicant/developer shall designate an area in the side yard where the trash container shall be placed. This restriction shall be stated clearly in development's CC&R's.
28. The project applicant/developer shall effectively screen from view all ducts, meters, air conditioning equipment, fire sprinkler risers, and any other mechanical equipment, whether on the structure, on the ground, or on the roof, with materials architecturally compatible with the building. Screening details shall be shown on the plans submitted for issuance of building permits, the adequacy of which shall be determined by the Director of Community Development. All required screening shall be provided prior to occupancy.

29. All mechanical equipment shall be constructed and maintained in such a manner that noise emanating from it will not be perceptible beyond the property plane of the subject property in a normal environment for that zoning district.
30. The apartment buildings with flat roofs shall have white cool roofs which are designed to reflect the heat of the sun away from the building, thus reducing its cooling load.
31. All HVAC equipment, antennas, satellite receiving stations, etc., located within the roof-equipment wells of the apartment buildings shall project no higher than a horizontal plane defined by the top-edge of the parapet walls. Final determination shall be made with review of the building plans to the satisfaction of the Director of Community Development.
32. All HVAC condensing units shall be shown on the building permit plans and shall be subject to the review and approval of the Director of Community Development prior to building permit issuance.
33. The dwelling units covered by this approval shall be constructed to encourage telecommuting by providing telecommunications infrastructure such as cabling for DSL service, wiring for total room access, etc. The project applicant/developer shall show the infrastructure on the building permit plan set prior to issuance of a building permit.
34. The project applicant/developer shall provide automatic opening sectional roll-up garage doors on the garages of the apartment units and the single family units covered by this approval. Unless otherwise approved by the Director of Community Development, the door design and material shall conform to the PUD development plan.
35. The approved building colors and materials shall be indicated on the final building permit plans. Any proposed revisions to these approved colors or materials must be submitted for review and approval by the Director of Community Development prior to the issuance of a building permit and/or prior to start of painting and/or installation.
36. The project applicant/developer shall install Medium Efficiency Reporting Value (MERV)-13 filters on the intake and return filters of the HVAC systems for all apartment and single-family units covered by this approval. The details shall be shown on the building permit plans to the satisfaction of the Director of Community Development.

Construction Phasing

37. Construction of the overall development may be phased. The project applicant/developer shall submit with the first grading or building permit a construction phasing plan for the entire development showing each construction

phase and the order of construction. Parking, driveways, public/private street accesses, and other infrastructure requirements shall be provided that match the buildings' intensity for each phase. The phasing plan shall be subject to review and approval of the Director of Community Development prior to the issuance of the grading permit or building permit. The phasing plan may be amended. Each phase shall verify that adequate parking will be provided and maintained so that site parking does not spill over into the surrounding commercial or residential area.

38. Prior to the first occupancy for each phase, the landscape architect or landscape designer shall certify in writing to the Director of Community Development that the landscaping has been installed in accordance with the approved landscape and irrigation plans with respect to size, number, and species of plants and overall design concept.

Construction Management

39. The project applicant/developer shall prepare a Construction Best Management Plan for each construction phase for review and approval by the Planning Division. The Construction Best Management Plan shall be approved by the Director of Community Development before the issuance of the first building permit for each project phase and shall include, but is not limited to, the following:
 - a) All demolition and construction activities, inspections, plan checking, material delivery, staff assignment or coordination, etc., shall occur between the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. No construction shall be allowed on State or Federal Holidays or Sundays. The Community Development Director may allow earlier construction "start times" for specific construction activities (e.g., concrete foundation/slab pours) if it can be demonstrated to the satisfaction of the Community Development Director that the construction and construction traffic noise will not affect nearby residents.
 - b) A construction staging plan shall be designated for all materials, equipment, and vehicles including parking for construction works and personnel. All stationary construction equipment shall be located as far from an adjacent occupied building as possible.
 - c) The construction traffic route, truck route, and materials haul route for this project shall be Sunol Boulevard to Valley Avenue to the Valley Avenue traffic circle opposite Oak Vista Way. From the traffic circle, the project traffic shall cross the vacant City property to access the south side of the project site. No construction traffic may use Bernal Avenue, the section of Valley Avenue from Bernal Avenue to the traffic circle opposite Oak Vista Way, or any street of the Walnut Hills development. The construction traffic route shall be posted in the construction trailer during construction and a printed copy shall be provided to all contractors, sub-contractors, and their

employees before work begins. An encroachment permit is required from the City of Pleasanton to cross the City property.

- d) All construction traffic shall avoid noise-sensitive areas, including residences and outdoor recreation areas, as much as possible. Major truck trips and deliveries shall be scheduled during off peak travel times, to avoid peak travel congestion. All street surfaces on the construction routes shall be monitored by the City Engineer and the City Traffic Engineer so that any damage and debris attributable to the haul trucks is identified and corrected at the expense of the project applicant/developer.
- e) Prior to construction, the construction traffic route, construction hours, and contact names and telephone numbers shall be posted on the driveway entrances, throughout the construction site, and in any construction trailer(s).
- f) Comprehensive traffic control measures shall be implemented, including scheduling of major truck trips and deliveries, to avoid peak travel hours. If necessary, as determined by the City Traffic Engineer, proper lane closure procedures such as flagger stations, signage, cones, and other warning devices shall be implemented during construction.
- g) Portable toilets used during construction shall be kept as far as possible from the existing and/or the new residences as they are occupied and shall be emptied on a regular basis as necessary to prevent odor.
- h) Dust control best management practices, as approved by the City Engineer, shall be followed at all times during grading and construction operations. Such measures may include watering of exposed surfaces twice a day, and more frequent watering when wind speeds exceed 15 mph; covering of stockpiled earth; covering of trucks hauling dirt if windy conditions prevail. Failure to keep dust under control may result in the stoppage of all work until a modified plan acceptable to the City Engineer is approved and implemented.
- i) Construction trailers shall be allowed to be placed on the project site for daily administration/coordination purposes during the construction period. Shipping containers may also be placed on the construction site to store materials and equipment.
- j) Except for security trailers staffed by licensed security personnel, at no time shall campers, trailers, motor homes, or any other vehicle be used as living or sleeping quarters on the construction site. All such vehicles shall be removed from the site at the end of each workday.
- k) Emergency vehicle access route(s), water supply, and fire hydrant installations shall be provided and continuously made available as part of

each phase to the satisfaction of the Fire Marshall, Livermore-Pleasanton Fire Department. Construction material storage and construction worker parking shall not obstruct the emergency vehicle access route(s).

- l) All Urban Storm Water Construction Requirements listed further in these conditions of approval shall be implemented.
40. The project applicant/developer shall designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the Building, Engineering, and Planning Divisions of the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise sensitive areas.
41. All excess soil from the site shall be off-hauled from the site and disposed of in a lawful manner. No stockpiling of dirt on this site shall occur without specific review and approval by the Planning Division. All dirt stockpile(s) shall be shown on the Construction Management Plan.
42. Prior to the issuance of a grading or building permit, whichever is sooner, the project applicant/developer shall submit an air quality construction plan detailing the proposed air quality construction measures related to the project such as construction phasing, construction equipment, and dust control measures, and such plan shall be approved by the Director of Community Development. Air quality construction measures shall include Basic Construction Mitigation Measures (BAAQMD, May 2011) and, where construction-related emissions would exceed the applicable thresholds, additional Construction Mitigation Measures (BAAQMD, May 2011) shall be instituted. The air quality construction plan shall be included in the Construction Best Management Plan and on all grading, utility, building, landscaping, and improvement plans during all phases of construction, access roads, parking areas, and staging areas at construction sites.
43. At least one week prior to the start of construction, the project applicant/developer shall distribute to adjoining residential owners and apartment tenants, as determined by the Planning Division, an informational hand-out containing the work schedule, contact persons with their telephone numbers for the project applicant/developer and contractor(s), and the City Building, Planning, and Engineering personnel overseeing the construction activity. The hand-out shall be updated as needed to notify the owners and tenants regarding major deliveries and any City street lane closures and/or detours. This informational hand-out shall also be distributed to the apartment tenants and homeowners that occupy a previous phase of this development.

Cultural Resources

44. A qualified archaeologist and designated Native American representative shall be present during all grading and site preparation activities. If any prehistoric or

historic artifacts, or other indication of cultural resources are found once the project construction is underway, all work must stop within 20 meters (66 feet) of the find. The archaeologist and designated Native American representative shall be consulted for an immediate evaluation of the find prior to resuming groundbreaking construction activities within 20 meters of the find. If the find is determined to be an important archaeological resource, the resource shall be either avoided, if feasible, or recovered consistent with the requirements of Appendix K of the State CEQA Guidelines.

45. In the event of discovery or recognition of any human remains in any on-site location, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the County coroner has determined, in accordance with any law concerning investigation of the circumstances, the manner and cause of death and has made recommendations concerning treatment and dispositions of the human remains to the person responsible for the excavation, or to his/her authorized representative. A similar note shall appear on the improvement plans including grading and utility plans.
46. The protection of the cultural resources and/or human remains, if discovered, shall be accomplished by preparing and implementing a Resources Recovery Plan meeting appropriate professional, State of California, and City of Pleasanton standards prior to further disturbing the site. Except for sub-surface surveys, no land disturbing activities shall be permitted until the Resource Recovery Plan is prepared and accepted by the City of Pleasanton.

Development Standards

47. The project applicant/developer shall prepare site development and architectural design standards for accessory structures for the side yards of the single-family units. Permanent or portable swimming pools and spas may not be installed in the side yards. The accessory structures shall only be allowed in the side yards. No accessory structure of any type may be installed in the private yards facing Valley Avenue.

Disclosures

48. The leases for the apartment units shall include a disclosure of the noise sources in the project vicinity including, but not limited to, I-680, Valley Avenue, the Pleasanton Gateway shopping center, and the Bernal Community Park. The disclosure shall be submitted to the City Attorney for review and approval before leasing the first apartment unit.
49. The recorded deed of sale for the single-family units covered by this PUD Development Plan shall include separately recorded disclosure statements or restrictive covenants indicating the following:

- a) That the single-family units are subject to the noise, activity, and traffic impacts associated with I-680, Valley Avenue, the nearby Pleasanton Gateway shopping center, the community building/ recreation area, and the Bernal Property.
- b) That an addition to any single-family unit is prohibited.
- c) That the residents, tenants, guests, etc., are prohibited from parking on the private courts or on the short driveways of Lots 19 through 30 and Lots 51 through 90. (This condition does not prohibit parking in the perpendicular parking spaces on Court I and Court L or on the full-length driveways of Lots 1 through 18 and Lots 34 through 50.)
- d) That the storage of materials in an uncovered parking space is prohibited.
- e) That the parking/storing of boats, campers, recreational vehicles, and/or trailers on any portion of the development or in any parking space, i.e., garage or uncovered space is prohibited.
- f) That the garages of the single-family units shall not be modified or used for storage in a manner that would interfere with the ability to park cars within the garage.
- g) That the trash container for the single-family units shall be stored within the designated area of the garage, except when the container is placed by the private court or street for pick-up by the Pleasanton Garbage Service.
- h) That the common areas of this development shall use reclaimed water for landscape irrigation when available.

Wording for these disclosures and covenants shall be written in simple/plain language, shall be submitted to the City Attorney for review and approval before City Council approval of the first final subdivision map for this development, and shall be recorded over the project site by separate instrument. The disclosures and covenants shall be incorporated in the CC&R's for this development.

Fees

- 50. Prior to issuance of a building permit, the project applicant/developer shall pay the applicable Zone 7 and City of Pleasanton connection fees and water meter cost for any water meters, including irrigation meters, applicable to the portion or phase of the project covered by the permit, minus the previous credits for 103.5, 5/8-inch meters. Additionally, the developer shall pay any applicable Dublin-San Ramon Services District (DSRSD) sewer permit fee.
- 51. The project applicant/developer shall pay such fees as the Tri-Valley regional traffic impact fee, in-lieu park dedication fees, etc., as to the amount and timing of

payment described in the Commons at Gateway Development Agreement, dated August 14, 2013.

52. The project applicant/developer shall pay any and all other applicable fees to which the property may be subject prior to issuance of permits unless payment of the fee is deferred to the occupancy permit by the Commons at Gateway Development Agreement. The type and amount of the fees shall be those in effect on the effective date of the Commons at Gateway Development Agreement, dated August 14, 2013.

Fence Design and Location

53. The project applicant/developer shall submit to the Planning Division a fence/wall plan with the locations and design detail of the private and common area fences and walls for review and approval by the Director of Community Development with the first final subdivision map. The location and design of the fences and walls shall conform to the PUD Development Plan. All fences and walls and their locations on the development shall conform to the approved fence/wall plan.

Green Building Measures

54. Prior to the first building permit submittal for the apartments and the single family units, the project applicant/developer shall provide a list of the green building measures used in the design of the units covered by this approval for review and approval by the Director of Community Development.

The green building measures shall be shown on one of the first two pages of the plans submitted for issuance of a building permit. Each point identified shall have a notation indicating the sheet the point can be found, and each sheet shall note where the point is located. All proposed green building measures shall be shown throughout the plan set, as appropriate, as determined by the Director of Community Development.

A special inspection by the Planning Division shall be coordinated with regards to landscaping, irrigation, and exterior materials. All of the green building measures indicated on the approved checklist shall be inspected and approved by either the City of Pleasanton, a third party rater, or the project applicant/developer shall provide written verification by the project engineer, architect, landscape architect, or designer.

55. The project applicant/developer shall install photovoltaic panels on the roof areas of the recreation building (Exhibit B, Sheets A4-1 through A4-4). Patio covers, if provided with the recreation building, shall also include photovoltaic panels. The details for the photovoltaic panels and installation shall be incorporated into the plans submitted to the Building and Safety Division for plan check and shall be subject to the review and approval of the Director of Community Development prior to building permit issuance.

56. The apartment buildings and the single family units shall be constructed to allow for the future installation of a photovoltaic- and solar-water-heating system. The project applicant/developer shall comply with the following requirements for making the buildings or units photovoltaic- and solar water-heating ready:
- a) Electrical conduit and cable pull strings shall be installed from the roof/attic area to the buildings' main electrical panels;
 - b) An area shall be provided near the electrical panel for the installation of an "inverter" required to convert the direct current output from the photovoltaic panels to alternating current;
 - c) The roof trusses shall be engineered to handle the additional load of a typical photovoltaic/solar water heating system;
 - d) Plumbing shall be installed for solar-water heating; and,
 - e) Space shall be provided for a solar-water-heating tank.

These measures shall be shown on the building permit plan set submitted to the Director of Community Development for review and approval before issuance of the first building permit.

57. The project applicant/developer shall provide the future homeowners of the single-family units the necessary information delineating the means by which photovoltaic panels can be applied to the roofs of the structures covered by this approval. This information shall be submitted to the Director of Community Development for review and approval prior to the occupancy of the first unit.
58. The project applicant/developer shall provide two electric vehicle charging stations by the recreation building on the side of A, C, and E Streets (Exhibit B, Sheet L-10, The Commons Plan) by the recreation building. The charging stations shall be shown on the plans submitted to the City Engineer and the Building and Safety Division for plan check and shall be subject to the review and approval of the Director of Community Development prior to the approval of the improvement plans for the development, and shall be operational before the first final inspection of the recreation building by the Building Division. The project applicant/developer shall install signs for these parking spaces stating, "Parking for Electrical Vehicles Only, Contact Community Manager for More Information."
59. The garages for the apartment units and the single family units shall be constructed to allow for the future installation of an electric vehicle charging station. Said construction shall include conduit and wires for a 110-/220-volt charging station. This measure shall be shown on the building permit plan set submitted to the Director of Community Development for review and approval before issuance of the first building permit.

60. The project applicant/developer shall develop and implement measures that will achieve 25 percent better energy efficiency for the project over that required by Title 24 state energy requirements in effect upon the City Council's adoption of the ordinance approving PUD-96. The method used and plan details shall be incorporated into the plans submitted to the Building and Safety Division for plan check and shall be subject to the review and approval of the Director of Community Development prior to building permit issuance.
61. The buildings covered by this approval shall be designed and constructed to meet Title 24 state energy requirements in effect upon the City Council's introduction of the ordinance approving PUD-96.
62. The applicant/project developer shall develop and implement a program for reclaimed water, grey water and/or rainwater harvesting systems for the subject site or as otherwise approved by the Director of Community Development. The program shall be subject to the review and approval of the Director of Community Development prior to building permit issuance.
63. Water conservation devices shall be installed as part of the proposed project. The water conservation devices shall be stated on the plans submitted for the issuance of a building permit.

Homeowners Association

64. A Tentative Subdivision Map shall be required to subdivide the property into 97 lots for the single-family units, 1 lot for the apartment buildings, 1 lot for the community building/open space/landscape area, and 19 lots or parcels for the pedestrian trails, private courts and open parking areas, and common areas. (Note: The number and type of lots or parcels can be revised with the Vesting Tentative Subdivision Map application.)
65. With the first Final Subdivision Map, the project applicant/developer shall record Conditions, Covenants and Restrictions (CC&R's), which shall create a homeowners association (HOA) for the entire development including the apartment units and the single-family units. The HOA shall be responsible for the following:
 - a) Annual inspection, maintenance, and/or repair of all common private improvements including, but not limited to, storm drainage swales, gutters, inlets, outfalls, channels, retaining walls, sound walls, fences, etc.;
 - b) Annual inspection, maintenance and/or repair, and reporting of all storm water NPDES facilities in accordance with the Operation and Maintenance Agreement executed between the City of Pleasanton and the SouthBay Development and recorded at the Alameda County Recorder's office;

- c) Annual inspection, maintenance, and/or repair of all private driveways, streets and courts, and open parking spaces;
- d) Annual inspection, maintenance, and/or repair of the landscaping and irrigation lines within the planter strip between the sidewalk and curb along Valley Avenue;
- e) Annual inspection, maintenance, and/or repair of all common open space areas and trails, landscape and irrigation, and fencing;
- f) Annual inspection, maintenance, and/or repair of the entire recreation area, building, and equipment; and,
- g) Maintenance responsibilities of the shared access driveways to Bernal Avenue and Valley Avenue defined in the "Reciprocal Easement and Maintenance Agreement" recorded on December 15, 2010 (Alameda County Recorder's No. 2010376767).

The CC&R's shall be subject to the review and approval of the City Attorney prior to recordation of the first final subdivision map. The City shall be granted the rights and remedies of the association, but not the obligation, to enforce the maintenance responsibilities of the association. All proposed revisions and/or changes to the CC&R's shall be first forwarded to the City Attorney's office for review and comment prior to their approval by the Homeowner's Association.

- 66. The project developer and then the Homeowners Association shall provide Livermore Amador Valley Transportation Authority (LAVTA) transit passes to all residents of this development at a 50% ticket price discount for the first year of occupancy for use on the LAVTA transit system.

Landscape and Irrigation Design

- 67. All phases of the project covered by Exhibit B shall comply with the State of California's Water Efficient Landscape Ordinance and Bay Friendly Basics Landscape Requirements. A licensed landscape architect shall verify the project's compliance with the ordinance and checklist: 1) prior to the issuance of a building permit; and 2) prior to final inspection. The verification shall be provided to the Planning Division.
- 68. A final landscape and irrigation plan shall be submitted to and approved by Director of Community Development as part of the improvement plans and as part of the building permit plans prior to issuance of a building permit. Said landscape plan shall be detailed in terms of species, location, size, quantities, and spacing. Plant species shall be of drought-tolerant nature and the irrigation design shall utilize low-volume drip, bubbler, or other water conserving irrigation systems to the maximum extent possible.

69. All irrigation systems shall meet all requirements for compatibility with future recycled water supply per City of Pleasanton Recycled Water Standards.
70. The homeowners association managing the common areas of this development shall use reclaimed water for landscape irrigation when available. Details and/or plans shall be provided for review and approval by the Director of Community Development before the use of the reclaimed water.
71. All trees used in landscaping be a minimum of 15-gallons in size and all shrubs a minimum of five-gallons, unless otherwise shown on the approved landscape plan.

Noise Mitigation Measures

72. The project applicant or developer shall comply with the recommendations of the noise analysis entitled "Environmental Noise Assessment Study, Commons at Gateway, Pleasanton, California" by Charles M. Salter Associates, Inc., dated June 11, 2013. Prior to issuance of a building permit for each building of this development, the noise consultant shall specify the minimum STC rating required for each window and exterior door of each building. Window and door assemblies and their STC rating shall be stated in the window and door schedules for the building permit plans to the satisfaction of the Director of Community Development.

Details of the noise mitigation measures for the apartments and single-family homes and outdoor areas shall be submitted in conjunction with the plans submitted for issuance of building permits and shall be subject to the review and approval by the Director of Community Development prior to issuance of building permits for the project. The applicant's noise consultant shall review the applicable noise mitigations shown on the building permit plans to ensure that the recommendations have been properly incorporated into the design. The consultant shall certify in writing that such recommendations have been followed.

73. The applicant or developer shall implement the following measures to address construction noise from all phases of this development:
 - a) Construction activities conducted on the subject property shall not exceed 86 dBA at any point outside of the property line planes of the subject property (Pleasanton Municipal Code Section 9.04.100.B.).
 - b) All internal combustion engines on the grading and/or construction equipment used on this development must meet Department of Motor Vehicle and City of Pleasanton noise standards and shall be equipped with muffling devices equal to or better than that supplied by the vehicle manufacturer. All equipment shall be maintained in good mechanical condition so as to minimize noise and air pollution from faulty engine, drive train, and other components. No muffler or exhaust system shall be equipped with cutout, bypass, or similar device intended to thwart quieting.

The construction noise mitigation measures shall be incorporated in the Construction Best Management Plan to the satisfaction of the Director of Community Development.

74. Prior to issuance of a building or grading permit, the applicant/developer shall provide a vibration study prepared by a qualified vibration consultant acceptable to the Director of Community Development which estimates vibration levels at neighboring sensitive uses. If the applicable vibration level limits established in Table 4.J-4 of the Supplemental Environmental Impact Report for the “City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment and Rezonings” are exceeded, mitigation shall be required to reduce vibration levels so they do not exceed the applicable limits, subject the satisfaction of the Director of Community Development.
75. Prior to issuance of a building permit, the project applicant’s or developer’s noise consultant shall certify in writing to the Director of Community Development that the construction drawings comply with the applicable City of Pleasanton and State of California interior noise standards.
76. The manager of the apartment units and the manager of the homeowners association for the single-family units shall be responsible for responding to the residents noise complaints.

Permitted Uses and Development Standards

77. The permitted uses for the PUD-HDR (Planned Unit Development – High Density Residential) zoned portion of Exhibit B shall include the four-story apartment buildings, the manager’s rental office for the apartments, no more than two weaned household pets, excepting fish and birds but excluding chickens, small family daycare, cottage food operations conducted in compliance with Chapter 18.105 of the Pleasanton Municipal Code, and exempt home occupations conducted in compliance with Section 18.104.030 of the Pleasanton Municipal Code. Unless permitted, all other uses are deemed to be prohibited.
78. The permitted uses for the PUD-MDR (Planned Unit Development – Medium Density Residential) zoned portion of Exhibit B shall include the two- and three-story tall single-family homes, home occupations conducted in compliance with Chapter 18.104 of the Pleasanton Municipal Code, household pets excluding chickens, small family daycare, cottage food operations conducted in compliance with Chapter 18.105 of the Pleasanton Municipal Code, temporary subdivision sales offices conducted in compliance with a temporary use permit, and the common recreation building/recreation area for use by the residents of the entire development and their guests. Unless permitted, all other uses are deemed to be prohibited.
79. The parking/storing of boats, campers, recreational vehicles, and/or trailers on any portion of the development or in any parking space, i.e., garage or uncovered

space, shall be prohibited. The garages for the apartment units or for the single-family units shall not be modified or used for storage in a manner that would interfere with the ability to park cars within the garage. In addition, the storage of materials in the uncovered parking spaces shall be prohibited. The project applicant/developer and the homeowners association shall be responsible for enforcing these restrictions, which shall be stated clearly in the lease agreements for the apartments and in the CC&R's and purchase agreements for the single-family units.

80. The single-family units including their driveway aprons, private landscaping, and lot-specific drainage shall be the responsibility of the individual owner for the lot. This responsibility shall be stated clearly in the CC&R's for the single-family units.

Site and Building Signs

81. Prior to installation of any site and/or building project identification signs, the project applicant/developer shall submit a comprehensive sign program for review and approval by the Director of Community Development under an application for Sign Design review.

Site and Building Lighting

82. All exterior building, site, and landscaping lighting shall be designed, installed, and controlled so as not to directly shine onto the I-680 freeway right-of-way, the Valley Avenue right-of-way, or onto the City park property along the entire south side of this development. (This condition shall not apply to the units' interior lighting.) All LEDs or bulbs shall be recessed into the fixture and shall be diffused. The project applicant/developer shall submit a final lighting plan including photometrics and drawings and/or manufacturer's specification sheets showing the size and types of light fixtures proposed for the buildings' exteriors and for the site, parking, and landscape areas. The light fixtures and their locations shall be subject to the review and approval of the Planning Division prior to the approval of the improvement plans and the issuance of building permits.
83. The project applicant/developer shall be responsible for the installation of the internal public and private street lighting system serving this development. The public and private street and court lights shall be LED units mounted on the fixtures shown on Sheet L-4, Site Amenities and Elements, of Exhibit B with poured in place bases, on the LS-1C schedule per City requirements and PG&E standard details, unless otherwise specifically approved by the Director of Community Development. The lighting system design shall conform to the Illuminating Engineering Society (IES). Approval for the number and location of public and private street and court lights shall be subject to the review and approval of the City Engineer.

Site Design

84. All perpendicular and parallel parking spaces shall be striped. Wheel stops shall be provided for the perpendicular parking spaces unless the parking spaces are fronted by concrete curbs, in which case sufficient areas shall be provided beyond the ends of all parking spaces to accommodate the overhang of automobiles.
85. All trash and recycling refuse for the apartments shall be contained completely within the approved trash and recycling enclosure. The materials and colors of the enclosures shall match the buildings and the gates shall be constructed of corrugated metal or solid wood. The design of the enclosure on all four sides shall be shown on the plans submitted for issuance of building permits. The design and location of the trash and recycling enclosure shall be subject to the approval of the Director of Community Development, the Chief Building and Safety Official, and the Fire Marshall. Trash and recycling containers shall be stored within the designated enclosure at all times, except when being unloaded. A recycling container(s) shall be provided within the enclosure. The recycling containers and enclosures shall be designed in a manner consistent with Pleasanton Garbage Service's recycling program in effect at the time of building permit issuance. The recycling containers shall be shown on the plans submitted for the issuance of a building permit.
86. The project applicant/developer shall not install hose bibs at the apartment buildings and the three-story single-family homes which could be used by residents to wash their vehicles.
87. The final location of pad-mounted transformers shall be subject to the approval by the Director of Community Development prior to issuance of permits by the Building and Safety Division. Such transformers shall not be located along Valley Avenue unless placed below grade. Such transformers shall be screened by landscaping to the satisfaction of the Director of Community Development. All transformer locations shall be shown to the satisfaction of the Director of Community Development on the improvement plans and on the construction plans submitted for issuance of building permits.
88. All backflow prevention devices, above ground irrigation controls, and above ground irrigation meters shall be located and screened to minimize their visual impacts. These devices with their proposed screening shall be shown on the landscaping and utility plans submitted with the building permit plans, clearly marked "above ground" or "below ground" on the plans, and shall be subject to the review and approval of the Planning Division prior to their installation. If above-ground, they shall be painted forest green or an equivalent dark-green color. Screens shall consist of berms, walls, or landscaping satisfactorily integrated into the landscape plan. Landscape screens shall include shrubbery designed by species and planting density to establish a complete screen within one year from the date of planting. Weather protection devices such as measures to protect pipes from freezing shall require approval by the Planning Division prior to use; at

no time shall fabric or other material not designed and/or intended for this purpose be wrapped around or otherwise placed on these devices.

89. A total of 12 bike racks for public use shall be installed within the project, consistent with the Design Standards requirements. The public bicycle racks shall be:
- 1) Be visible and accessible.
 - 2) Support the frame of the bicycle and not just one wheel.
 - 3) Allow the frame and one wheel to be locked to the rack.
 - 4) Allow the use of either a cable or U-shaped lock.
 - 5) Be securely anchored.
 - 6) Be usable by bikes with no kickstand.
 - 7) Be usable by a wide variety of sizes and types of bicycles.

The location and the installation details for the public bike racks shall be included with the plans submitted for issuance of building permits, and shall be subject to the review and approval by the Director of Community Development prior to issuance of building permits.

90. All retaining walls shown on the building permit plans shall be faced with stone or manufactured stone, brick, or stucco or exterior plaster over blocks or concrete. Colors and materials shall match the approved materials and colors for the development. This detail shall be shown on the building permit plan set to the satisfaction of the Director of Community Development before the issuance of a building permit.
91. The project applicant/developer shall provide paved path with a gate from the proposed trail located on Lot B to the Bernal Community Park property on the south side of the project. The gate and path shall be ADA compliant and shall be shown on the revised site plan, landscape plan, and improvement plans to the satisfaction of the Director of Community Development before issuance of an on-site permit.

Traffic, Circulation, and Parking

92. Unless otherwise approved by the Director of Community Development, all new parking spaces and drive aisles shall conform to the dimensions required by the Housing Site Development Standards and Design Guidelines. Plans submitted to the Building Division for permits shall have the dimensions noted on the plans.
93. The project applicant/developer shall provide a high visibility crosswalk across A Street at the southernmost intersection of A Street with B Street to the satisfaction of the City Traffic Engineer. This change shall be shown on the improvement plans and the building permit plans to the satisfaction of the City Traffic Engineer before the issuance of the first on-site permit.

94. The project applicant/developer shall use their best effort to work with the owner of the Pleasanton Gateway shopping center to provide a high visibility (ladder) crosswalk and an all way stop controlled intersection at the intersection of B Street and the shared access driveway to Valley Avenue. If provided, this change shall be shown on the improvement plans and the building permit plans to the satisfaction of the City Traffic Engineer before the issuance of the first on-site permit.
95. The project applicant/developer shall modify the median island opposite Whispering Oaks Way to eliminate the northbound left-turn pocket, which is no longer needed to access the project site. The project applicant/developer shall install new curb, landscaping matching the existing plant materials in the Valley Avenue median islands, and irrigation as required by the Director of Community Development. This change shall be shown on the improvement plans to the satisfaction of the City Engineer and the City Traffic Engineer before issuance of the first on-site permit.
96. The following parking restrictions shall apply to all units of this development as follows:
 - a) The residents, tenants, guests, etc., are prohibited from parking on the private courts or on the short driveways of Lots 19 through 33 and Lots 51 through 97. (This condition does not prohibit parking in the perpendicular parking spaces on Court I and Court L or on the full-length driveways of Lots 1 through 18 and Lots 34 through 50.)
 - b) The storage of materials in an uncovered parking space is prohibited.

The parking restrictions shall be incorporated in the lease agreements for the apartment units and the disclosures and CC&R's for the single-family units.

SPECIAL CONDITIONS OF APPROVAL **Engineering**

97. The project applicant/developer shall install a minimum five-foot wide separated concrete sidewalk along the Valley Avenue frontage from the project's shared access driveway with the Pleasanton Gateway shopping center to the traffic circle below the southernmost project boundary line. The planter strip between the back of curb and face of sidewalk shall be a minimum of five feet. If the project applicant/developer installs a City standard sidewalk along the project frontage and dedicates an easement for the maintenance of the sidewalk, the City will accept the sidewalk for maintenance, however if the sidewalk is not in conformance with City standard the sidewalk shall be privately maintained by the project maintenance association. All landscaping and irrigation lines within the planter strip shall be maintained by the homeowners association.

98. The project developer shall include erosion control measures, prepared and signed by the Qualified Storm Water Pollution Prevention Plan Developer (QSD), on the final grading plan, subject to the review of the City Engineer. This erosion control measures shall be as required by the state's Construction General Permit. The project developer is responsible for ensuring that the contractor is aware of such measures. All cut and fill slopes shall be re-vegetated and stabilized as soon as possible after completion of grading, in no case later than October 15. No grading shall occur between October 15 and April 15 unless approved erosion control measures are in place, subject to the approval of the project QSD and the City Engineer. Such measures shall be maintained until such time as a permanent landscaping is in place, site is stabilized and Notice of Completion (NOC) has been filed with the State Regional Water Board and/or accepted by City.
99. The project applicant/developer shall install trash capture devices within the project's storm drain inlets or storm drain piping to capture trash within the development. These devices shall trap particles of 5mm or greater and have treatment capacity not less than the peak storm from a "one year, one hour" event within the drainage area. The project applicant's or developer's engineer shall submit calculations and product submittals to the City Engineer for review and approval prior to the issuance of a grading or building permit, whichever is sooner.
100. A detailed grading and drainage plan prepared by a licensed Civil Engineer including all supporting information and design criteria, storm drain treatment calculations, and hydro-modification worksheets, etc., shall be submitted with the improvement plans to the satisfaction of the City Engineer. The calculations shall demonstrate to the satisfaction of the City Engineer that there is sufficient capacity within the existing Central Detention Pond on the Bernal Property to allow for both hydro-modification and storm water treatment for existing residential developments, both existing and future development of Bernal Parks, the Pleasanton Gateway shopping center development, and the subject residential development. Prior to the first plan check, the project applicant/developer's engineer shall submit the storm drain drawings and hydro-modification calculations to the City Engineer for review. The hydro-modification calculations shall be peer reviewed by the City's consultant, with the peer review costs paid for by the project applicant/developer subject to the peer review procedures established by the City Engineer.
101. Based upon the storm drainage analysis required in the condition above, subject to the review and approval by the City Engineer, the project applicant/developer shall be responsible for making any modification to the existing detention pond for any additional storage including any modifications of the existing outfall to allow sufficient capacity for storm water treatment and hydro-modification.
102. Each apartment unit shall be sub-metered for sewer and/or water billing purposes. The locations of the water meters and the water and sewer mains to these buildings shall be shown on the plans submitted to the City Engineer and the Building and Safety Division for plan check, and shall be subject to the review and

approval of the Director of Community Development prior to the approval of the improvement plans and the issuance of building permits.

103. Streets A, B, C, and D, shown on the PUD Development Plan shall be public and shall be maintained by the City of Pleasanton including street lights and utilities such as water, sewer, and storm drain lines.
104. Courts A thru U shall be private and shall be maintained by the homeowners association including all underground utilities and street lights.
105. The decorative paving installed in the public rights-of-way, such as pavers or stamped pavement within the intersections and crosswalks, shall be the responsibility of the homeowner's association. This includes general maintenance or pavement replacement due normal wear or to any utility work conducted within the roadway by the City of Pleasanton.
106. The 8-inch sanitary sewer main located on Court I and Lot C shall be public and maintained by the City of Pleasanton. A drivable surface with H-20 loading shall be constructed at the end of Courts I and K for maintenance vehicles to access the sanitary sewer manholes on the 8-inch sanitary sewer main within Court I and Lot C. The design and materials shall be approved by the City Engineer before construction begins.
107. The existing 48-inch storm drain line running east to west located on the south portion of this development shall be relocated within Street A. The final location shall be approved by the City Engineer.
108. A drivable surface with H-20 loading shall be constructed from Street A westerly on Lot B to allow for maintenance vehicles to access the existing storm drain manholes on the 48-inch storm drain line. The design and materials shall be approved by the City Engineer.
109. All existing water, sewer, and storm utility lines stubbed to site along Valley Avenue, that are not used by this development shall be abandoned to the satisfaction of the City Engineer.

STANDARD CONDITIONS OF APPROVAL Engineering

110. A "Conditions of Approval" checklist shall be completed and attached to all plan checks submitted for approval indicating that all conditions have been satisfied.
111. The project applicant/developer shall grant an easement to the City over those portions of the parcel needed for public service easements (P.S.E.) and which are approved by the City Engineer, or other easements, which may be designated by the City Engineer.

112. The project applicant/developer shall comply with the recommendations of the project's geotechnical consultant. The project developer's geotechnical consultant shall review and approve all foundation, retaining wall, and drainage geotechnical aspects of the final development plans to ensure that the recommendations have been properly incorporated into the project design. The consultant shall certify by writing on the plans or as otherwise acceptable to the City Engineer that the final development plan is in conformance with the geotechnical report approved for the project.
113. The project applicant/developer shall arrange and pay for the geotechnical consultant to inspect and approve all foundation, retaining, and wall and drainage geotechnical aspects of project construction. The consultant shall be present on site during grading and excavation operations. The results of the inspections and the as-built conditions of the project shall be certified in writing by the geotechnical consultant for conformance to the approved plans and geotechnical report and submitted to the City Engineer for review and approval prior to occupancy.
114. The project applicant/developer shall submit a final grading and drainage plan prepared by a licensed civil engineer including all supporting information and design criteria (including but not limited to any peer review comments), storm drain treatment calculations, hydromodification worksheets, all final grades and drainage control measures, including concrete-lined V-ditches, to protect all cut and fill slopes from surface water overflow, etc., shall be submitted as part of the building permit plans. This plan shall be subject to the review and approval of the City Engineer prior to the issuance of a grading permit by Engineering Division.
115. There shall be no direct roof leaders connected to the street gutter or storm drain system, unless otherwise approved by the City Engineer.
116. The project applicant/developer shall construct vertical P.C.C. curbs and gutters within this development unless otherwise approved by the City Engineer. When the sidewalk is adjacent to the curb and gutter, they shall be poured monolithically.
117. All retaining walls along the street shall be placed behind the Public Service Easement (PSE), unless otherwise approved by the City Engineer.
118. The curb and gutter along the street shall have a sub drain installed at either the back of the curb or lip of gutter at the discretion of the City Engineer. This detail shall be shown on the improvement plans. Said drains shall be connected to the storm drain system or drained by other means acceptable to the City Engineer.
119. This approval does not guarantee the availability of sufficient water and/or sewer capacity to serve the project.
120. The project applicant/developer shall submit detailed landscape and irrigation plans as part of the building permit plans. The irrigation plan shall provide for automatic controls.

121. The improvement plans for this development shall contain signage and striping plans that are subject to the approval of the City Traffic Engineer.
122. All dry utilities (electric power distribution, gas distribution, communication service, Cable television, street lights and any required alarm systems) required to serve existing or new development shall be installed in conduit, underground in a joint utility trench.
123. Any damage to existing street improvements during construction on the subject property shall be repaired to the satisfaction of the City Engineer at full expense to the project developer. This shall include slurry seal, overlay, or street reconstruction if deemed warranted by the City Engineer.
124. The project developer/subdivider shall create drainage easements across the project for the benefit of the individual lots, subject to the review and approval of the City Engineer.
125. The project developer/subdivider shall create utility easements across the project for the benefit of the individual lots, subject to the review and approval of the City Engineer.
126. All retaining walls and monument signs along the street shall be placed behind the Public Service Easement (PSE), unless otherwise approved by the City Engineer.
127. A water meter shall be provided to each lot of record within the development unless otherwise approved by the City Engineer.
128. A sanitary sewer lateral with two-way cleanout (located at the back of the sidewalk or curb, whichever is applicable) shall be provided to each lot of record within the development unless otherwise approved by the City Engineer.

STANDARD URBAN STORMWATER CONDITIONS OF APPROVAL

129. The project shall comply with the City of Pleasanton's Stormwater National Pollutant Discharge Elimination Standards Permit #CAS612008, dated October 14, 2009 and amendments (hereafter referred to as NPDES Permit). This NPDES Permit is issued by the California Regional Water Quality Control Board, San Francisco Bay Region (hereafter referred to as Regional Water Quality Control Board). Information related to the NPDES Permit is available at the City of Pleasanton Community Development Department, Engineering Division, and on line at:

<http://www.ci.pleasanton.ca.us/business/planning/StormWater.html>

http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/index.shtml

Design Requirements

130. NPDES Permit design requirements include, but are not limited to, the following:
- a) Source control, site design, implementation, and maintenance standards when a regulated project (such as a commercial, industrial, residential subdivision, mixed use, or public project) creates and/or replaces 10,000 square feet or more of impervious surface (5,000 square feet for auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots), including roof area, street, and sidewalk.
 - b) Hydromodification standards when a regulated project creates and/or replaces a total impervious area of one acre or more.
 - c) Compliance with a Diazinon pollutant reduction plan (Pesticide Plan) to reduce or substitute pesticide use with less toxic alternatives.
 - d) Compliance with a Copper Pollutant Reduction Plan and a Mercury Pollutant Reduction Plan.
131. The following requirements shall be incorporated into the project:
- a) The project developer shall submit a final grading and drainage plan prepared by a licensed civil engineer depicting all final grades and onsite drainage control measures including bioretention swales. Irrigated bioretention swales shall be designed to maximize storm water entry at their most upstream point. The grading and drainage plans shall be subject to the review and approval of the City Engineer prior to the issuance of a grading or building permit, whichever is sooner.
 - b) In addition to natural controls, the project developer may be required to install a structural control(s), such as an oil/water separator(s), sand filter(s), or approved equal(s) in the parking areas and/or on the site to intercept and pre-treat storm water prior to reaching the storm drain. The design, location(s), and a schedule for maintaining the separator shall be submitted to the City Engineer/Chief Building and Safety Official for review and approval prior to the issuance of a grading or building permit, whichever is sooner. The structural control shall be cleaned at least twice a year (once immediately prior to October 15 and once in January).
 - c) The project developer shall submit to the City Engineer the sizing design criteria and calculations for a hydromodification facility, if required, and for the treatment of storm water runoff. The design criteria and calculations shall be subject to the review and approval of the City Engineer and shall be submitted prior to the issuance of a grading or building permit, whichever is sooner.

- d) Buildings/Structures shall be designed to minimize the occurrence and entry of pests into buildings, thus minimizing the need for pesticides, as determined by the Chief Building Official prior to the issuance of a building permit.
- e) The project's landscape and irrigation plans shall be designed to: 1) minimize the use of fertilizers and pesticides that can contribute to storm water pollution; and, 2) promote surface infiltration. Prior to the installation of project landscaping and irrigation, the project landscape architect shall submit a landscaping and irrigation plan to the City Engineer for review and approval and submit written verification stating the project incorporates the following:
 - i. Plants tolerant of saturated soil conditions and prolonged exposure to water in areas that provide detention of water.
 - ii. Plants and soil amendments appropriate to site specific characteristics such as topography and climate.
 - iii. Landscaping and irrigation consistent with State Water-Efficient Landscape Ordinance Bay-Friendly Basics Landscaping Requirements.
 - iv. Water conservation techniques to promote surface infiltration.
- f) Trash dumpsters and recycling containers shall be in an enclosed and roofed area to minimize water flowing in and from the area and to contain litter and trash to minimize disbursement by the wind or runoff. These areas shall not drain to the storm drain system, but to the sanitary sewer system and an area drain shall be installed in the enclosure area with a structural control such as an oil/water separator or sand filter. No other area shall drain into the trash enclosure; a ridge or a berm shall be constructed to prevent such drainage if found necessary by the City Engineer/Chief Building Official. A sign shall be posted prohibiting the dumping of hazardous materials into the sanitary sewer. The project applicant/developer shall notify the Dublin San Ramon Services District of the sanitary sewer connection and provide written verification of such notification to the City Engineer/Chief Building Official prior to the installation of the connection.
- g) All paved outdoor storage areas shall be designed to minimize pollutant runoff. Bulk materials stored outdoors that may contribute to the pollution of storm water runoff must be covered as deemed appropriate by the City Engineer/Chief Building.
- h) All metal roofs, gutters, and downspouts shall be finished with rust-inhibitive finish/paint as determined by the Chief Building Official.

- i) All projects using architectural copper roofing, gutters, downspouts, etc., shall utilize the following Best Management Practices for the use and maintenance:
- i. During installation, copper material shall be pre-patinated at the factory, if available. If patination is done on-site, collect the rinse water in a tank and haul off-site for disposal. With prior authorization from Dublin San Ramon Services District (DSRSD), the rinse water may be collected in a tank and discharged to the sanitary sewer. Consider coating the copper materials with a clear coating that prevents further corrosion and storm water pollution. The clear coating, if utilized, shall be reapplied (as recommended by the coating manufacturer) to maintain its efficacy.
 - ii. During maintenance (e.g., washing or re-patination), the following applies:
 - Minimize washing of architectural copper as it damages the patina and any protective coating.
 - Block storm drain inlets as needed to prevent runoff from entering storm drains.
 - Collect the wash or rinse water in a tank and dispose off-site or (with prior authorization from DSRSD), discharge the wash or rinse water to the sanitary sewer.
- j) Roof drains shall drain away from the building foundation. Ten percent of the storm water flow shall drain to a landscaped area or to an unpaved area wherever practicable as determined by the City Engineer/Chief Building Official.

Construction Requirements

The project shall comply with the "Construction General Permit" requirements of the NPDES Permit for construction activities (including other land disturbing activities) that disturb one acre or more (including smaller sites that are part of a larger common plan of development). Information related to the Construction General Permit is on line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/finalconstpermit.pdf

132. The Construction General Permit's requirements include, but are not limited to, the following:

- a) The project applicant/developer shall obtain a construction general permit (NOI) from the Regional Water Quality Control Board to discharge storm water, and to develop and implement storm water pollution prevention plans.
- b) The project applicant/developer shall submit a Stormwater Pollution Prevention Plan (SWPPP) to the City Engineer/Chief Building Official for review and approval prior to the issuance of a grading or building permit, whichever is sooner. A copy of the approved SWPPP, including all approved amendments, shall be available at the project site for City, review until all engineering and building work is complete and City permits have been finalized. A site specific SWPPP must be combined with proper and timely installation of the BMPs, thorough and frequent inspections, maintenance, and documentations. SWPPP for projects shall be kept up to date with the projects' progress. Failure to comply with the most updated construction SWPPP may result in the issuance of correction notices, citations, and/ or stop work orders.
- c) The project applicant/developer is responsible for implementing the following Best Management Practices (BMPs). These, as well as any other applicable measures, shall be included in the SWPPP and implemented as approved by the City.
 - i. The project applicant/developer shall include erosion control/storm water quality measures on the project grading plan which shall specifically address measures to prevent soil, dirt, and debris from entering the public storm drain system. Such measures may include, but are not limited to, hydroseeding, hay bales, sandbags, and siltation fences and shall be subject to the review and approval of the City Engineer/Chief Building Official. If no grading plan is required, necessary erosion control/storm water quality measures shall be shown on the site plan submitted for a building permit, and shall be subject to the review and approval of the Building and Safety Division. The project developer is responsible for ensuring that the contractor is aware of and implements such measures.
 - ii. All cut and fill slopes shall be revegetated and stabilized after completion of grading, but in no case later than October 15. Hydroseeding shall be accomplished before September 15 and irrigated with a temporary irrigation system to ensure that the vegetated areas are established before October 15. No grading shall occur between October 15 and April 15 unless approved erosion control/storm water quality measures are in place, subject to the approval of City Engineer/Chief Building Official. Such measures

shall be maintained until such time as permanent landscaping is place.

- iii. Gather all sorted construction debris on a regular basis and place them in the appropriate container for recycling to be emptied at least on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to storm water runoff pollution.
- iv. Remove all dirt, gravel, rubbish, refuse, and green waste from the street pavement and storm drains adjoining the site. Limit construction access routes onto the site and place gravel on them. Do not drive vehicles and equipment off paved or graveled areas during wet weather. Broom sweep the street pavement adjoining the project site on a daily basis. Scrape caked on mud and dirt from these areas before sweeping.
- v. Install filter materials (such as sandbags, filter fabric, etc.) at the storm drain inlet nearest the downstream side of the project site in order to retain any debris or dirt flowing in the storm drain system. Maintain and/or replace filter materials to ensure effectiveness and to prevent street flooding.
- vi. Create a contained and covered area on the site for the storage of cement, paints, oils, fertilizers, pesticides, or other materials used on the site that have the potential of being discharged into the storm drain system by being windblown or in the event of a material spill.
- vii. Never clean machinery, equipment, tools, brushes, or rinse containers into a street, gutter, or storm drain.
- viii. Equipment fueling area: use a designated area away from the storm drainage facility; use secondary containment and spill rags when fueling; discourage "topping off" of fuel tanks; place a stockpile of absorbent material where it will be readily accessible; check vehicles and equipment regularly for leaking oils and fuels; and, dispose rags and absorbent materials promptly and properly. Use of an off-site fueling station is strongly encouraged.
- ix. Ensure that concrete/gunite supply trucks or concrete/plaster operations do not discharge wash water into a street, gutter, or storm drain.
- x. Concrete wash area: 1) locate wash out area away from storm drains and open ditches; 2) construct a temporary pit large enough to store the liquid and solid waste; 3) clean the pit by allowing concrete

to set; 4) break up the concrete; and then, 5) recycle or dispose of properly.

- xi. Equipment and vehicle maintenance area: use a designated area away from the storm drainage facility; always use secondary containment and keep stockpile of cleanup materials nearby; regularly inspect vehicles and equipment for leaks and repair quickly or remove from them project site; and train employees on spill cleanup procedures. Use of an off-site repair shop is strongly encouraged.

133. Within 30 days of the installation and testing of the storm water treatment and hydromodification facilities, the designer of the site shall submit a letter to the City Project Inspector/Construction Services Manager certifying the devices have been constructed in accordance with the approved plans for storm water and C3 design for the project. The letter shall request an inspection by City staff.

Operation and Maintenance Requirements

The project shall comply with the operation and maintenance requirements of the NPDES Permit. All regulated projects (such as commercial, industrial, residential subdivision, mixed use, or public projects) that create and/or replace 10,000 square feet or more of impervious areas (5,000 square feet for auto service facilities, retail gasoline outlets, restaurants, and uncovered parking lots) shall enter into a recorded Stormwater Operation and Maintenance (O&M) Agreement for treating storm water runoff from the site in perpetuity. The agreement is required to be recorded at the Alameda County Recorder's Office in a format approved by City.

134. The Operation and Maintenance Agreement shall clarify that the property owner(s) of the site shall be responsible for the following in perpetuity:

- a. Maintaining all private storm water treatment measures on the project site.
- b. Annually submitting a maintenance report to the City Operations Services Department, Utilities Division, addressing the implementation of the Operation and Maintenance Agreement requirements.

The final Operation and Maintenance Agreement shall be submitted to the Engineering Division prior to the issuing grading or building permit, whichever comes first. The Agreement is subject to review and approval of the City Engineer/City Attorney, prior to recordation.

135. The Operation and Maintenance Agreement responsibilities shall include, but not be limited to the following:

- a. Repainting text near the drain inlets to state "No Dumping – Drains to Bay."

- b. Ensuring maintenance of landscaping with minimal pesticide and fertilizer use.
- c. Ensuring wastewater from industrial, commercial, and covered vehicle wash areas and equipment washing operations is not discharged to the storm drain system.
- d. Ensuring no one is disposing of vehicle fluids, hazardous materials or rinse water from cleaning tools, equipment or parts into storm drains.
- e. Cleaning all on-site storm drains at least twice a year with one cleaning immediately prior to the rainy season. The City may require additional cleanings.
- f. Sweeping regularly but not less than once a month, driveways, sidewalks and paved areas to minimize the accumulation of litter and debris. Corners and hard to reach areas shall be swept manually. Debris from pressure washing shall be trapped and collected to prevent entry into the storm drain system. Wastewater containing any soap, cleaning agent or degreaser shall not be discharged into the storm drain.
- g. Mowing and removing clippings from vegetated swales with grasses on a regular basis.

SPECIAL CONDITIONS OF APPROVAL

Fire

136. Access for this project is acceptable by the Fire Marshal as currently shown on the PUD development plan. Unless otherwise approved by the Fire Marshal, the project applicant/developer shall not modify the site access that deviates from the following requirements: Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus.

The fire apparatus access roads shall have a minimum unobstructed width of 20 feet in the immediate vicinity of any building or portion of building more than 30 feet in height. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. Where fire access through or around the site involves changes in direction or curves, the minimum-turning radius shall be as follows: an inside radius of 45 feet and outside radius of 55 feet shall be provided to facilitate fire truck turning radius for entry and exit from the site.

137. Fire flow and duration shall be provided in accordance with 2010 CFC Appendix B.

138. Installation drawings can be a deferred submittal for these plans. The underground pipeline contractor shall submit a minimum of three (3) sets of installation drawings to the Building Department, to be reviewed by the Fire Prevention Bureau. The plans shall have the contractor's wet stamp indicating the California contractor license type, license number and must be signed. No underground pipeline inspections will be conducted prior to the approval of the installation plans.
139. All field-testing and inspection of piping joints shall be conducted prior to covering of any pipeline.
140. The conceptual hydrant layout has been reviewed and accepted with the exception of adding two hydrants on Court L to provide the 400 foot spacing between fire hydrants required by the California Fire Code for multi-family residential developments.
141. Parking restrictions shall apply to ensure a 20-foot clear width for fire access.
142. Address numbers shall be installed on the front or primary entrance for all buildings. Minimum building address character size shall be minimum 4 inches high by a ½-inch stroke.
143. The private courts shall be designated as fire lanes and identified as such by red curb striping and posted with signs on both sides of the street at locations approved by the Fire Department. Signs shall be according to State of California standards and shall read, "No Parking - Fire Lane." The signs and curbs shall be shown on the improvement plans to the satisfaction of the City Engineer and the Director of Community Development.
144. The buildings covered by this approval shall be equipped with an automatic fire sprinkler system. Plans and specifications for the automatic fire sprinkler system shall be submitted for review and approval by the Livermore-Pleasanton Fire Department prior to installation. The fire alarm system, including water flow and valve tamper, shall have shop drawings submitted for review and approval by the Livermore-Pleasanton Fire Department prior to installation. All required inspections and witnessing of tests shall be completed prior to final inspection and occupancy of the building(s).
145. Valve tamper and water flow shall be monitored by an approved supervising station in accordance with NFPA 72 and the California Fire Code.

STANDARD CONDITIONS OF APPROVAL
Fire

146. The apartments shall have valve tamper and water flow connected to an Underwriters Laboratory (UL) listed Central Station Service. Fire Department plan check includes specifications, monitoring certificate(s), installation certificate and alarm company UL certificate.

147. The project applicant/developer shall keep the site free of fire hazards from the start of lumber construction until the final inspection.
148. Fire alarm control panel and remote annunciation shall be at location(s) approved by the Fire Prevention Bureau. All systems shall be point identified by individual device and annunciated by device type and point.
149. All fire sprinkler system water flow and control valves shall be complete and serviceable prior to final inspection. Prior to the occupancy of a building having a fire alarm system, the Fire Department shall test and witness the operation of the fire alarm system.
150. Prior to any construction framing, the project applicant/developer shall provide adequate fire protection facilities, including, but not limited to a water supply and water flow in conformance to the City's Fire Department Standards able to suppress a major fire.
151. All fire sprinkler system water flow and control valves shall be complete and serviceable prior to final inspection. Prior to the occupancy of a building having a fire alarm system, the Fire Department shall test and witness the operation of the fire alarm system.
152. The Fire Prevention Bureau reviews building/civil drawings for conceptual on-site fire mains and fire hydrant locations only. Plan check comments and approvals DO NOT INCLUDE:
 - Installation of the on-site fire mains and fire hydrants. Specific installation drawings submitted by the licensed underground fire protection contractor shall be submitted to the Fire Prevention Bureau for approval.
 - Backflow prevention or connections to the public water mains.
153. Electrical conduit shall be provided to each fire protection system control valve including all valve(s) at the water connections. The Livermore-Pleasanton Fire Department requires electronic supervision of all valves for automatic sprinkler systems and fire protection systems.
154. The following items will be provided prior to any construction above the foundation or slab. NOTE: Periodic inspections will be made for compliance.
 - a) Emergency vehicle access will be required to be provided to the site (tract), including the area where construction is occurring.
 - b) Multi-family residential developments: Projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

- c) Emergency vehicle access shall be a minimum of 20 feet in clear width. A clear height free of obstructions (power, cable, telephone lines, tree limbs, etc.) is required. This clearance shall be a minimum of 13 feet, 6 inches. Inside turning radius of 45 feet and outside turning radius of 55 feet shall be provided.
- d) The carrying capacity of the access route(s) shall be 69,000 pounds under all weather conditions.
- e) Where on-site fire hydrant(s) are required, they shall be installed, flushed and all valves open prior to any construction above the foundation or slab.
- f) On-site fire hydrant(s) shall not be obstructed and shall be sufficiently above grade to have all hydrant valves and outlets accessible for emergency use.

SPECIAL CONDITIONS OF APPROVAL
Building

- 155. All ground-floor apartment units and all apartment units served by an elevator shall meet the minimum accessibility requirements of Chapter 11A of the California Building Code for multi-story apartments in buildings with an elevator.
- 156. The principles of Universal Design shall be incorporated into the apartment units and the single-family units wherever possible. Unless otherwise determined by the Chief Building Official, the project applicant/developer shall provide the following features for all adaptable dwelling units:
 - a) An audible and visual doorbell within the unit.
 - b) A balcony and/or patio constructed at same floor level as units' living area(s).
 - c) View windows having a maximum 36-inch sill height.
 - d) A minimum hallway width of 44 inches and a minimum clear door opening width of 32 inches for all doorways within the unit.
 - e) Lever type handles on all doors.
 - f) A minimum 18-inch clear floor space beside the door on the pull side at latch jamb.
 - g) All receptacle or other outlets at a minimum height of 18 inches above the finished floor.

- h) Rocker type light switches at a maximum height varying from 40 inches to 48 inches above the finished floor, and thermostats at a maximum height of 48 inches above the finished floor.
 - i) Variable height work surfaces, such as cutting boards, countertops, sinks, and/or cook tops at a height varying from 28 inches to 42 inches above the finished floor.
 - j) Loop handle pulls on drawers and cabinet doors or touch hardware with no knobs.
 - k) Full-extension, pull-out drawers, shelves and racks in base cabinets.
 - l) Full height pantry storage with easy access pull-out and/or adjustable height shelves.
 - m) Front-mounted controls on all appliances.
 - n) Adjustable height closet rods and shelves.
 - o) Single-lever water controls at all plumbing fixtures and faucets.
 - p) Hand- held adjustable shower head.
 - q) Blocking in walls around toilet, tub, and shower for future placement and relocation of grab bars.
157. The project applicant/developer shall submit plot plans for each of the single-family home lots showing building setbacks and a topographic plan showing grading and drainage. Pad elevations, finish floor elevations, retaining walls, easements, and maximum height of the highest structure are to be indicated on the plan. The plans for the lots are to be signed by a registered civil engineer. All residential plot plans shall show compliance with 2907(d) and 70012(d) of the Uniform Building Code.

STANDARD CONDITIONS OF APPROVAL
Building

158. All retaining walls higher than four feet from the top of the wall to the bottom of the footway shall be constructed of reinforced concrete, masonry, or other material as approved by the Director of Community Development, or shall be an approved crib wall type. Calculations signed by a registered civil engineer shall accompany the wall plans.
159. At the time of building permit plan submittal, the project developer shall submit a final grading and drainage plan prepared by a licensed civil engineer depicting all

final grades and on-site drainage control measures to prevent storm water runoff onto adjoining properties.

160. Prior to issuance of building or demolition permits, the applicant shall submit a waste management plan to the Building and Safety Division. The plan shall include the estimated composition and quantities of waste to be generated and how the project developer intends to recycle at least 75 percent of the total job site construction and demolition waste measured by weight or volume. Proof of compliance shall be provided to the Chief Building and Safety Official prior to the issuance of a final building permit. During demolition and construction, the project developer shall mark all trash disposal bins "trash materials only" and all recycling bins "recycling materials only." The project developer shall contact Pleasanton Garbage Service for the disposal of all waste from the site.

SPECIAL LANDSCAPING CONDITIONS OF APPROVAL

161. Except for the trees to be removed with the construction of B Street, the project applicant/developer shall preserve the existing trees planted along the south side of the shared access driveway with the Pleasanton Gateway shopping center. Prior to issuance of a grading or building permit, the project applicant/developer shall install a temporary six-foot tall chain-link fence or other fence type acceptable to the Planning Division along the existing tree drip lines. The fencing shall remain in place until final landscape inspection by the Planning Division; removal of such fencing prior to that time shall result in a "stop work" order. No construction workers or equipment shall be allowed into the fenced areas for these trees unless prior written approval is issued by the City's Landscape Architect. Failure to comply with this requirement shall also result in a "stop work" order.
162. The project applicant/developer shall preserve the existing trees planted in the Valley Avenue median island between Whispering Oaks Way and Oak Vista Way during the reconstruction of the median island required by these conditions of approval. Prior to issuance of an on-site permit, the project applicant/developer shall install a temporary six-foot tall chain-link fence or other fence type acceptable to the Planning Division along the existing tree drip lines of these trees. The fencing shall remain in place until final landscape inspection by the Planning Division; removal of such fencing prior to that time shall result in a "stop work" order. No construction workers or equipment shall be allowed into the fenced areas for these trees unless prior written approval is issued by the City's Landscape Architect. Failure to comply with this requirement shall also result in a "stop work" order.
163. The project applicant/developer shall post cash, letter of credit, or other security satisfactory to the Director of Community Development in the amount of \$5,000 for each tree required to be preserved, up to a maximum of \$25,000. This cash bond or security shall be retained for one year following acceptance of public improvements or completion of construction, whichever is later, and shall be forfeited if the trees are destroyed or substantially damaged. No trees shall be

removed other than those specifically designated for removal on the approved plans.

164. Excluding the designated play areas and recreation areas, the project applicant/developer shall minimize the amount of lawn area for this development. This change shall be shown on the building permit plans to the satisfaction of the Director of Community Development.

STANDARD LANDSCAPING CONDITIONS OF APPROVAL

165. The project developer shall enter into an agreement with the City, approved by the City Attorney, which guarantees that all landscaping and open space areas included in this project will be maintained at all times in a manner consistent with the approved landscape plan for this development. Said agreement shall run with the land for the duration of the existence of the structures located on the subject property.
166. Six-inch vertical concrete curbs shall be installed between all paved and landscaped areas.
167. The project developer shall provide root control barriers and four inch perforated pipes for parking lot trees, street trees, and trees in planting areas less than ten feet in width, as determined necessary by the Director of Community Development at the time of review of the final landscape plans.
168. For purposes of erosion control, the applicant or developer shall plant a hydroseed mixture that has been designed by the project Landscape Architect. The hydroseed mixture shall be specified on the building permit plans for review and approval by the Director of Community Development and shall be maintained by the applicant/developer for (specify timing and/or performance standard).

STANDARD CONDITIONS OF APPROVAL Community Development Department

169. The project applicant/developer shall submit a refundable cash bond for hazard and erosion control. The amount of this bond will be determined by the Director of Community Development. The cash bond will be retained by the City until all the permanent landscaping is installed for the development, including individual lots, unless otherwise approved by the department.
170. All existing wells on the site shall be removed or sealed, filled and abandoned pursuant to Alameda County Ordinance 73-68, prior to the start of grading operations. Wells shall be destroyed in accordance with the procedures outlined on the permit obtained from Zone 7. Zone 7 may request that the project developer/subdivider retain specific wells for ground water monitoring. The project developer/subdivider shall notify the City of Zone 7's desire to retain any well(s) and make provisions to save the well. Additionally, the project developer/

subdivider may request special approval for temporary use of an existing well for construction water or a more permanent use such as non potable outdoor landscaping. The project developer/subdivider shall make such request in writing to the City Engineer.

CODE REQUIREMENTS

Fire

(Applicants/Developers are responsible for complying with all applicable Federal, State and City codes and regulations regardless of whether or not the requirements are part of this list. The following items are provided for the purpose of highlighting key requirements.)

171. Automatic fire sprinklers shall be installed in all occupancies in accordance with City of Pleasanton Ordinance 2015. Installations shall conform to NFPA 13R for multifamily residential occupancies.
172. Fire alarm systems shall be provided and installed in accordance with the CFC currently in effect, the City of Pleasanton Ordinance 2015 and 2002 NFPA 72 - National Fire Alarm Code. Notification appliances and manual fire alarm boxes shall be provided in all areas consistent with the definition of a notification zone (notification zones coincide with the smoke and fire zones of a building). Shop drawings shall be submitted for permit issuance in compliance with the CFC currently in effect.
173. Underground fire mains, fire hydrants and control valves shall be installed in conformance with the most recently adopted edition of NFPA Pamphlet 24, "Outside Protection".
 - The underground pipeline contractor shall submit a minimum of three (3) sets of installation drawings to the Fire Department, Fire Prevention Bureau. The plans shall have the contractor's wet stamp indicating the California contractor license type, license number and must be signed. No underground pipeline inspections will be conducted prior to issuance of approved plans.
 - All underground fire protection work shall require a California contractor's license type as follows: C-16, C-34, C-36 or A.
 - All field-testing and inspection of piping joints shall be conducted prior to covering of any pipeline.
174. The building (s) covered by this approval shall conform to the requirements of the California Building Code currently in effect, the California Fire Code currently in effect and the City of Pleasanton Ordinance 2015. Plans and specifications for the automatic fire sprinkler system shall be submitted to the Livermore-Pleasanton Fire Department for review and approval prior to installation. The fire alarm system, including water flow and valve tamper, shall have plans and specifications

submitted to Fire Prevention for review and approval prior to installation. All required inspections and witnessing of tests shall be completed prior to final inspection and occupancy of the building(s).

175. Dead-end fire service water mains shall not exceed 500 feet in length and/or have more than five Fire Department appliances* shall be looped around the site or building and have a minimum of two points of water supply or street connection. Zone valves shall be installed as recommended under NFPA, Pamphlet 24 and the Fire Marshal.

*Note: Fire Department appliances are classified as fire sprinkler system risers, fire hydrants and/or standpipes.

176. All buildings undergoing construction, alteration or demolition shall comply with Chapter 14 (California Fire Code currently in effect) pertaining to the use of any hazardous materials, flame-producing devices, asphalt/tar kettles, etc.

CODE REQUIREMENTS

Building

(Applicants/Developers are responsible for complying with all applicable Federal, State and City codes and regulations regardless of whether or not the requirements are part of this list. The following items are provided for the purpose of highlighting key requirements.)

177. The project developer shall submit a building survey and/or record of survey and a site development plan in accordance with the provisions of Chapter 18.68 of the Municipal Code of the City of Pleasanton. These plans shall be approved by the Chief Building and Safety Official prior to the issuance of a building permit. The site development plan shall include all required information to design and construct site, grading, paving, drainage, and utilities.
178. The project developer shall post address numerals on the building so as to be plainly visible from all adjoining streets or driveways during both daylight and night time hours.
179. All building and/or structural plans must comply with all codes and ordinances in effect before the Building Division will issue permits.

< End >

**RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:**

City of Pleasanton
City Clerk's Office
123 Main Street
Pleasanton, CA 94566

Recording Fees Exempt Pursuant to Government Code
§ 27383

SPACE ABOVE THIS LINE FOR RECORDER'S USE

**DEVELOPMENT AGREEMENT
FOR THE COMMONS AT GATEWAY**

**RECORDING REQUESTED BY AND
WHEN RECORDED MAIL TO:**

City of Pleasanton
City Clerk's Office
123 Main Street
Pleasanton, CA 94566

Recording Fees Exempt Pursuant to Government Code
§ 27383

SPACE ABOVE THIS LINE FOR RECORDER'S USE

THIS DEVELOPMENT AGREEMENT ("**Agreement**") is made and entered into in the City of Pleasanton on this _____ day of _____, 2013, by and between the City of Pleasanton, a municipal corporation (the "**City**"), and Pleasanton Gateway, LLC, a Delaware limited liability LLC, (the "**Developer**"), pursuant to the authority of California Government Code sections 65864 *et seq.*

RECITALS

A. To strengthen the public planning process, encourage private participation in comprehensive planning and reduce the economic risk of development, the Legislature of the State of California enacted California Government Code sections 65864 *et seq.* (the "**Development Agreement Statute**"), which authorizes City to enter into an agreement with any person having a legal or equitable interest in real property regarding the development of such property.

B. Developer has a legal interest in certain real property located in the City of Pleasanton, County of Alameda, California consisting of approximately 26.72 acres located at 1600 Valley Avenue, as more particularly described in **DA Exhibit A-1** attached hereto, and as shown on the site plan attached hereto as **DA Exhibit A-2**. Developer contemplates developing a residential development project on such real property commonly referred to as the "**Commons at Gateway**."

C. In October 2010, the City Council confirmed an 11-member Housing Element Task Force (Task Force) with the mission to oversee the update of the City's Housing Element. After nine Task Force meetings, four community workshops, input from housing experts, and extensive community input, the Task Force recommended a draft list of sites for rezoning to residential uses. On recommendation of the Planning Commission, the City Council, at a duly noticed public hearing held on January 4, 2012, rezoned the real property referred to in Recital B above to Planned Unit Development-High Density Residential (PUD-HDR) and medium density residential (PUD-MDR), with the high density portion of such real property to be developed at a minimum density of 30 units per acre. Such rezoning of the real property referred to in Recital B was approved by Ordinance No. 2031 -to allow high-density and medium density residential use on the site consistent with the Task Force recommendations, the Housing Commission

recommendations from its November 17, 2011 hearing and the direction of the Planning Commission-City Council Joint Workshop held December 6, 2011.

D. City has undertaken several actions to meet its Regional Housing Needs Allocation (“RHNA”), to review and plan for the future constructive reuse of housing uses on this 26.72 acre site, including, without limitation, the following:

(1) CEQA Compliance. A Supplemental Environmental Impact Report was prepared and certified for the City of Pleasanton Housing Element and Climate Action Plan General Plan Amendment (“**Housing Element EIR**”) and Rezonings on January 4, 2012. This recent Housing Element EIR anticipated that a high-density and medium density residential project of up to 300 apartments and 88 single family homes would be constructed on the Project Site (as defined below). Upon receipt of Developer’s project applications, City prepared and considered an Addendum to the Housing Element EIR and determined that the Housing Element EIR fully analyzed all the impacts of the Project.

(2) Housing Site Development Standards and Design Guidelines. On September 4, 2012, the City Council adopted the Housing Site Development Standards and Design Guidelines (“**Design Guidelines**”) to guide development on the rezoned sites, including the Project Site (as defined below).

(3) PUD Development Plan. Following review and recommendation by the City Planning Commission and after a duly noticed public hearing, preparation and consideration of an Addendum to the Housing Element EIR, the City Council, by Ordinance _____ approved the PUD Development Plan (the “**Project Design Review**”) for the 26.72 acre residential housing site referred to above known as the “Commons at Gateway,” surface parking and related site improvements, and collectively referred to in this Agreement as the **Project Site**.

(4) Growth Management Agreement. Following review and approval of the Design Guidelines and the PUD Development Plan for the Project Site, the City Council, by Resolution determined that it was in the best interests of the City to approve a Growth Management Agreement covering the Project Site (the “**GMA**”) and further determined that the City’s obligations to meet its RHNA is best served if City issues the residential building permits for the Project Site consistent with the GMA.

(5) Affordable Housing Agreement. Following review and recommendation of the Housing Commission and after a duly noticed public hearing, the City Council, by Resolution ____ approved an Affordable Housing Agreement covering the Project Site (the “**AHA**”).

(6) Development Agreement. Following review and recommendation by the City Planning Commission and after a duly noticed public hearing, the City Council, by Ordinance ____, determined that this Agreement was consistent with the City’s General Plan and PUD-____, and approved this Agreement.

The approvals described in this Recital D are collectively referred to herein as the “**Project**” or the “**Project Approvals**” and applies only to all of the Commons at Gateway. If Developer applies for development agreement coverage and protection with respect to any real

property located outside of the Commons at Gateway, then any redevelopment by Developer or any of its successors or assigns with respect to any such real property located outside of the Commons at Gateway shall require an amendment to this Agreement for such future approvals to be vested under this Agreement or require a new standalone development agreement.

E. In exchange for the benefits to City described in these recitals, including but not limited to assurance that a residential project consistent with the PUD Development Plan approval referred to above and Design Guidelines intended to meet the City's RHNA can proceed, together with the other public benefits that will result from the development of the Project Site, Developer will receive by this Agreement assurance that it may proceed with the Project in accordance with the "**Applicable Law**" (defined below), and therefore desires to enter into this Agreement.

NOW, THEREFORE, with reference to the foregoing recitals and in consideration of the mutual promises, obligations and covenants herein contained, City and Developer agree as follows:

AGREEMENT

Article I Description of Property, Effective Date and Term.

Section 1.01 Description of Property. The real property which is the subject of this Agreement is the Commons at Gateway site, as described in the attached **DA Exhibit A-1** and **DA Exhibit A-2**.

Section 1.02 Effective Date. This Agreement shall become effective upon the date the ordinance approving this Agreement becomes effective (the "**Effective Date**").

Section 1.03 Term. The term of this Agreement shall commence on the Effective Date and extend ten (10) years thereafter (the "**Term**").

Article II Standards, Laws and Procedures Governing the Project.

Section 2.01 Vested Right To Develop. Developer shall have a vested right to develop the Project Site in substantial conformance with the terms and conditions of the Project Approvals, the Subsequent Approvals (defined below) (as and when issued), the Applicable Law (defined below) and amendments as shall, from time to time, be approved pursuant to this Agreement. Specifically, while Developer contemplates constructing the Project Site in accordance with the Project Design Review, Developer shall have the vested right to develop the Project Site with 210 apartment units, 97 single family homes, surface parking and related site improvements, in accordance with the PUD Development Plan referred to above.

Section 2.02 Permitted Uses. The permitted uses and the density and intensity of use of the Project Site; the maximum height, bulk and size of the proposed buildings, apartments and single family homes; provisions for reservation or dedication of land for public purposes and the location of public improvements; the general location of public utilities; and other terms and conditions of development applicable to the Project, shall be as set forth in the Project Approvals

and, as and when they are issued (but not in any limitation of any right to develop as set forth in the Project Approvals), any Subsequent Approvals (defined below).

Section 2.03 Applicable Law. “Applicable Law” shall mean the existing rules, regulations, official policies, standards and specifications governing permitted uses of the Commons at Gateway and the Project Site, governing density, and governing the design, improvements, the City’s Residential Growth Management Program (as set forth in Chapter 17.36 of the Pleasanton Municipal Code), the AHA and applicable City regulations, and construction standards and specifications applicable to the Commons at Gateway and the Project Site as set forth in this Agreement and the Project Approvals, and in force and effect on the Effective Date. During the Term, to the extent there are any conflicts between the Project Approvals (including but not limited to conditions to any of the Project Approvals) and this Agreement, the terms and conditions of this Agreement shall govern. Further, the parties acknowledge that the GMA, once approved, is a vested element of this Agreement, notwithstanding subsequent RHNA cycles, or existing timing provisions or subsequent changes to the City’s Growth Management Ordinance (the “GMO”). Further, during the Term, to the extent there are any conflicts between the GMA and the GMO, the terms and conditions of the GMA shall govern.

Section 2.04 Moratorium, Initiatives and Conflicting Enactments. To the extent consistent with state law (and excepting a declaration of a local emergency or state emergency as defined in Government Code section 8558), if any ordinance, resolution or other measure is enacted subsequent to the Effective Date, whether by action of City, by initiative, referendum, or otherwise, that imposes a building moratorium, a limit on the rate of development, or a voter-approval requirement which would otherwise affect the timely development of the Project or Project Approvals or Subsequent Approvals on all or any part of the Project Site (“City Law”), City agrees that such ordinance, resolution or other measure shall not apply to the Project Site, this Agreement, the Project Approvals, or the Subsequent Approvals, if any, during the Term.

Section 2.05 Life of Project Approvals or Subsequent Approvals. The term of any Project Approval or Subsequent Approval shall automatically be extended for the longer of Term of this Agreement or the term otherwise applicable to such Project Approval or Subsequent Approval if this Agreement is no longer in effect. The Term of this Agreement, any other Project Approval or Subsequent Approval shall not include any period of time during which any applicable development or utility moratorium, lawsuit or the actions of other public agencies that regulate land use, delays construction of the Project.

Section 2.06 Development Timing. Subject to Applicable Law, including the GMA, Developer shall have the right to develop the Project on the Project Site in such order and at such rate and at such times as Developer deems appropriate within the exercise of its subjective business judgment.

Section 2.07 Compliance with State and Federal Law. This Agreement is subject to Developer’s compliance with all applicable federal and state laws and regulations and compliance with the California Environmental Quality Act, Public Resources Code sections 21000 *et seq.* (“CEQA”).

Article III Developer Obligations.

Section 3.01 Obligations of Developer Generally. The parties acknowledge and agree that the City's agreement to perform and abide by the covenants and obligations of City set forth in this Agreement is a material consideration for Developer's agreement to perform and abide by its long term covenants and obligations, as set forth herein. The parties acknowledge that many of Developer's long term obligations set forth in this Agreement are in addition to Developer's agreement to perform all the mitigation measures identified in the Project Mitigation Monitoring and Reporting Program.

Section 3.02 Development Impact Fees. Except as otherwise specifically set forth in this Article 3 or otherwise herein, Developer shall only pay to City those legally enforceable development impact fees and exactions which are in effect as of the Effective Date. A complete list of these applicable development impact fees and exactions is attached as **DA Exhibit B**. Developer may defer payment of development impact fees and exactions (including but not limited to those set forth or referenced in Sections 3.03, 3.04(f) and 3.07) until issuance of certificates of occupancy. Further, in the event Developer applies for multiple grading or building permits covering portions or phases of the Project, Developer shall only pay those development impact fees (or prepare such study or studies) applicable to the portion or phase of the Project covered by the issued permit. However, during the Term of this Agreement, except as specifically set forth in this Agreement or the Project Approvals, Developer shall pay those periodic cost of living or similar indexed increases, decreases or adjustments to such fees and exactions as are applicable and in effect at the time such fees or exactions would otherwise be payable to City.

Section 3.03 Traffic Mitigation Measures; Traffic Impact Fees. Developer shall be obligated to mitigate the traffic related impacts of the Project in conformance with the Housing Element EIR, Mitigation Measure 4.N-7, which shall be deemed full compliance with General Plan policy, by complying with each of the following:

- (a) Pleasanton Traffic Impact Fee. Developer shall pay to City the applicable Pleasanton Traffic Impact Fee in accordance with the City's fee schedule in effect on the Effective Date of this Agreement, and
- (b) Tri-Valley Transportation Committee Fee. Developer shall pay to the City the Tri-Valley Transportation Committee Fee as may be applicable.

Section 3.04 Below Market Rate Units. As more particularly set forth in the AHA, assuming Developer develops the 210 apartment unit project and 97 single family home project as contemplated by the GMA and the Project Design Review, Developer shall be obligated to make fifteen percent (15%) or thirty-two(32) affordable units available for rent within the Project Site, in accordance with the following:

- (a) sixteen (16) affordable units to households at or below 50% of the Area Median Income ("AMI");
- (b) sixteen (16) affordable units to households at or below 60% of the AMI;

- (c) The AHA shall more specifically identify the affordable unit mix, including required number of unit types, units for the physically disabled, unit construction quality and location, for these affordable units;
- (d) The affordable unit rents shall be based on the following household sizes:
 - (1) Studio Unit: One (1) person household;
 - (2) 1 Bedroom Unit: Two (2) person household;
 - (3) 2 Bedroom Unit: Four (4) person household;
 - (4) 3 Bedroom Unit: Five (5) person household; and
- (e) City acknowledges and finds that in recognition of the Project compliance with the fifteen percent (15%) affordable housing calculation provided in the City's inclusionary zoning ordinance, the Project is exempt from any obligation to pay the City's Lower Income Housing Fee.
- (f) In addition to the thirty-two (32) affordable units, Developer shall pay, at issuance of the certificates of occupancy, a City Lower Income Housing Fee of \$5,356 for each of the ninety-seven (97) single family units for a total of \$519,532.

Section 3.05 School Fees. Developer shall pay fees in accordance with State Law as provided by the Housing Element EIR. Furthermore, Developer shall do the following with respect to the development of residential units on the Project Site: Developer shall work with the Pleasanton Unified School District (PUSD) to develop a program to offset this project's long term effect on school facility needs in Pleasanton. This program shall be designed to fund school facilities necessary to offset this project's reasonably related effect on the long-term need for expanded school facilities. The method and manner of providing these funds and/or facilities to PUSD by Developer shall be approved by PUSD and in place prior to building permit issuance. Written proof of compliance with this condition shall be provided by Developer to the City, on a form generated by PUSD, prior to building permit issuance. If required by PUSD, as part of the program developed to offset this project's long term effect on school facility needs in Pleasanton, Developer shall pay to PUSD the school impact fees and supplemental mitigation amounts that PUSD has in place at the time Developer files an application for a building permit for this project. To the extent Developer enters into a written agreement with PUSD concerning the payment of school fees and/or supplemental mitigation amounts with respect to the development of residential units on the Project Site, then, the preceding sentence to the contrary notwithstanding, Developer shall pay school fees and supplemental mitigation amounts, if any, in accordance with the written agreement entered into between Developer and PUSD and Developer shall provide to City, prior to building permit issuance, PUSD's written confirmation of such agreement.

Section 3.06 Processing Fees; Permit Fees

- (a) Building Permit. Developer shall pay to City building permit fees in accordance with the City's building permit ordinance in effect at the time the applicable building permit is granted by City.
- (b) Processing Fees. Developer shall pay to City the City's reasonable application processing fees for the Project in accordance with the City's fee schedule in effect at the time Developer submits the applicable Project application for processing.

Section 3.07 Park Fees. Consistent with, and in satisfaction of Developer's Quimby Act (Gov't code section 66477) and City Park Fee Ordinance (Chapter 19.44 of the Pleasanton Municipal Code), Developer will pay City park fees totaling approximately _____ Dollars (\$_____). The precise amount of this contribution will be determined in accordance with the terms of the City's Park Land Fee Ordinance (Ordinance No. 1605) in effect on the Effective Date. Developer acknowledges that the inhabitants of the Project will benefit whether the City elects to apply these funds to the acquisition of parkland or to park and recreational improvements to the development of the Bernal Community Park or any other park requirement designated by the City.

Article IV City Obligations.

Section 4.01 Protection of Vested Rights. To the maximum extent permitted by law, City shall take any and all actions as may be necessary or appropriate to ensure that the vested rights provided by this Agreement can be enjoyed by Developer and to prevent any City Law from invalidating or prevailing over all or any part of this Agreement. City shall cooperate with Developer and shall undertake such actions as may be necessary to ensure this Agreement remains in full force and effect. City shall not support, adopt, or enact any City Law, or take any other action which would violate the express provisions or intent of the Project Approvals or the Subsequent Approvals (defined below).

Section 4.02 Availability of Public Services. To the maximum extent permitted by law and consistent with its authority, City shall assist Developer in reserving capacity for sewer, water and any other services as may be necessary to serve the Project.

Section 4.03 Developer's Right to Rebuild. City agrees that Developer may renovate or rebuild the Project Site within the Term of this Agreement should it become necessary due to natural disaster, changes in seismic requirements, or should the buildings located within the Project Site become functionally outdated, within Developer's sole discretion, due to changes in technology. Any such renovation or rebuilding shall be subject to the square footage and height limitations vested by this Agreement, and shall comply with the Project Approvals, the building codes existing at the time of such rebuilding or reconstruction, and the requirements of CEQA.

Section 4.04 Processing Subsequent Approvals. "Subsequent Approvals" shall mean those certain other land use approvals, entitlements, and permits other than the Project Approvals which are necessary or desirable for the development of the Project on the Project Site. The Subsequent Approvals may include, without limitation, the following: amendments of the Project Approvals, lot line adjustments and/or subdivision maps, improvement agreements, grading

permits, building permits, sewer and water connection permits, and certificates of occupancy. The Subsequent Approvals shall be deemed tools to implement those final policy decisions reflected by the Project Approvals and shall be issued by City so long as they comply with this Agreement and Applicable Law and are not inconsistent with the Project Approvals. Without limiting the preceding provisions of this Section 4.04 or Sections 2.01-2.02, City shall not (a) impose any conditions of approval or other requirements upon any Subsequent Approvals that conflict with any Project Approvals or that could prevent or materially increase the cost of development of the Project pursuant to the Project Approvals; or (b) require any further legislative level entitlements to enable Developer to build out the Project on the Project Site.

Article V Miscellaneous.

Section 5.01 Amendment to Project Approvals.

- (a) **Administrative Project Amendments.** Upon the written request of Developer for an amendment or modification to a Project Approval or Subsequent Approval, the Director of Community Development or his/her designee shall determine (i) whether the requested amendment or modification is minor when considered in light of the Project as a whole; and (ii) whether the requested amendment or modification is substantially consistent with this Agreement and Applicable Law. If the Director of Community Development or his/her designee finds that the proposed amendment or modification is minor, substantially consistent with this Agreement and Applicable Law, and will result in no new significant impacts not addressed and mitigated in the Housing Element EIR and Addendum thereto, the amendment shall be determined to be an “Administrative Project Amendment” and the Director of Community Development or his designee may, except to the extent otherwise required by law, approve the Administrative Project Amendment without notice and public hearing. Without limiting the generality of the foregoing, lot line adjustments, minor increases or reductions in the density which do not affect the number of required affordable units as described in Section 3.04 above, minor increases or decreases in the intensity, scale or scope of the Project, minor alterations in vehicle circulation patterns or vehicle access points, changes in trail alignments, substitutions of comparable landscaping for any landscaping shown on any final development plan or landscape plan, variations in the location of structures that do not substantially alter the design concepts of the Project, variations in the location or installation of utilities and other infrastructure connections or facilities that do not substantially alter the design concepts of the Project, and minor adjustments to the Project Site diagram or Project Site legal description shall be treated as Administrative Project Amendments.

- (b) **Other Project Amendments.** Any request of Developer for an amendment or modification to a Project Approval or Subsequent Approval which does not satisfy the requirements for an Administrative Project Amendment shall be subject to the review, consideration and action by City pursuant to the Applicable Law and this Agreement.

Section 5.02 Amendment of Agreement. This Agreement may be amended from time to time, in whole or in part, by mutual written consent of the parties hereto or their successors in interest, as follows:

- (a) Administrative Agreement Amendments. Any amendment to this Agreement which does not substantially affect (i) the Term of this Agreement, (ii) permitted uses of the Project Site, (iii) provisions for the reservation or dedication of land, (iv) conditions, terms, restrictions or requirements for subsequent discretionary actions, (v) the density or intensity of use of the Project Site or the maximum height or size of proposed buildings, or (vi) monetary contributions by Developer, shall not, except to the extent otherwise required by law, require notice or public hearing before the parties may execute an amendment hereto. Such amendment may be approved by the Community Development Director who shall make the determination in the context of the overall Project.
- (b) Amendment Exemptions. No amendment of a Project Approval or Subsequent Approval shall require an amendment to this Agreement. Instead, any such amendment automatically shall be deemed to be incorporated into the Project and vested under this Agreement.
- (c) Scope of Amendment. An amendment to this Agreement may properly address new impacts, if any, resulting from the proposed amendment and shall not serve as an opportunity for City to revisit vested rights unrelated to such amendment.

Section 5.03 Cooperation in Event of Legal Challenge. In the event of an administrative, legal or equitable action or other proceeding instituted by any person not a party to this Agreement challenging the validity of this Agreement or any Project Approval or Subsequent Approval, the parties shall cooperate in defending such action or proceeding. The parties shall use best efforts to select mutually agreeable legal counsel to defend such action, and Developer shall pay compensation for such legal counsel; provided, however, that such compensation shall include only compensation paid to counsel not otherwise employed as City staff and shall exclude, without limitation, City Attorney time and overhead costs and other City staff overhead costs and normal day-to-day business expenses incurred by City. Developer's obligation to pay for legal counsel shall not extend to fees incurred on appeal unless otherwise authorized by Developer. In the event City and Developer are unable to select mutually agreeable legal counsel to defend such action or proceeding, each party may select its own legal counsel at its own expense.

Section 5.04 Defaults. In the event City or Developer defaults under the terms of this Agreement, City or Developer shall have all rights and remedies provided under law. No default hereunder shall render invalid the lien of any deed of trust, mortgage or security interest in or upon the Project Site or any improvements or fixtures at any time located thereon.

Section 5.05 Periodic Review. Throughout the Term of this Agreement, at least once every twelve (12) months following the execution of this Agreement, City shall review the extent of good-faith compliance by Developer with the terms of this Agreement.

Pleasanton, CA 94566
Attn: Nelson Fialho, City Manager
Telephone: (925) 931-5002
Facsimile: (925) 931-5482

With Copies to: City of Pleasanton
City Hall
123 Main Street
P.O. Box 520 Pleasanton, CA 94566
Attn: Jonathan Lowell, City Attorney
Telephone: (925) 931-5015
Facsimile: (925) 931-5482

If to Developer, to: Pleasanton Gateway, LLC
1690 Dell Avenue
Campbell, CA 95008
Attn: Scott Trobbe
Telephone: (408) 379-0400
Facsimile: (408) 379-3229

With Copies to: Berliner Cohen
10 Almaden Boulevard, 11th Floor
San Jose, CA 95113
Attn: Sam Farb
Telephone: (408) 286-5800
Facsimile: (408) 998-5388

Section 5.12 Exhibits. The following exhibits are attached to this Agreement and incorporated herein for all purposes:

- DA EXHIBIT A-1.....Legal Description of Commons at Gateway Site
- DA EXHIBIT A-2.....Diagram of Commons at Gateway
- DA EXHIBIT BList of City Development Impact Fees

Section 5.13 Entire Agreement, Counterparts and Exhibits. This Agreement is executed in two (2) duplicate counterparts, each of which is deemed to be an original. This Agreement consists of ___ pages and three exhibits which constitute in full, the final and exclusive understanding and agreement of the parties and supersedes all negotiations or previous agreements of the parties with respect to all or any part of the subject matter hereof. All waivers of the provisions of this Agreement shall be in writing and signed by the appropriate authorities of City and the Developer.

Section 5.14 Estoppel Certificate. Developer may, at any time, and from time to time, deliver a written notice to City requesting City to certify in writing that: (a) this Agreement is in full force and effect and a binding obligation of the parties, (b) this Agreement has not been amended or modified either orally or in writing, and if so amended, identifying the amendments entered into

by the parties, and (c) to the knowledge of City, neither party is or has been in default under this Agreement, or if any such default has to City's knowledge occurred, describing the nature of any such event of default and any cure thereof. City shall execute and return such certificate to Developer within ten (10) days following City's receipt thereof, and if City fails so to do within such 10-day period, the information in Developer's notice shall conclusively be deemed true and correct in all respects. The Director of Community Development, on behalf of City, shall execute certificates requested by Developer hereunder. City acknowledges that any certificate hereunder may be relied upon by any transferee or mortgagee of any interest of Developer hereunder.

Section 5.15 Further Assurances. Each of the parties covenants, on behalf of itself and its successors and assigns, to take all actions and to execute, with acknowledgment or affidavit if required, any and all documents and writings, that may be reasonably necessary, proper or convenient to achieve the purposes and objectives of this Agreement.

Section 5.16 Interpretation. Captions and headings in this Agreement are for convenience of reference only and shall not affect the meaning or interpretation of any provision of this Agreement. As used herein: (a) the singular shall include the plural (and vice versa) and the masculine or neuter gender shall include the feminine gender (and vice versa) where the context so requires; (b) locative adverbs such as "herein," "hereto," and "hereunder" shall refer to this Agreement in its entirety and not to any specific section or paragraph; (c) the terms "include," "including," and similar terms shall be construed as though followed immediately by the phrase "but not limited to;" (d) "shall," "will," "must," "agrees," and "covenants," are mandatory and "may" is permissive; and (e) "or" is not exclusive. The parties have jointly participated in the negotiation and drafting of this Agreement, and this Agreement shall be construed fairly and equally as to the parties, without regard to any rules of construction relating to the party who drafted a particular provision of this Agreement.

Section 5.17 Recordation of Development Agreement. Pursuant to California Government Code section 65868.5, no later than ten (10) days after City enters into this Agreement, the City Clerk shall record an executed copy of this Agreement in the Official Records of the County of Alameda.

[Signatures on next page]

IN WITNESS WHEREOF, this Agreement has been entered into by and between Developer and City as of the day and year first above written.

“CITY”

Dated: _____

CITY OF PLEASANTON,
a municipal corporation

By: _____
Nelson Fialho
City Manager

Dated: _____

Approved as to form:

By: _____
Jonathan Lowell
City Attorney

“DEVELOPER”

Dated: _____

PLEASANTON GATEWAY, LLC
a Delaware limited liability company

By: SB Pleasanton, LLC,
a California limited liability company,
its Manager

By: _____

Name: _____

Title: _____

STATE OF CALIFORNIA

ss.

COUNTY OF _____

On _____, before me, _____, Notary Public, personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

Signature _____ [Seal]

STATE OF CALIFORNIA

ss.

COUNTY OF _____

On _____, before me, _____, Notary Public, personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

Signature _____ [Seal]

DA-EXHIBIT A-1

LEGAL DESCRIPTION OF PROPERTY

Real property in the City of Pleasanton, County of Alameda, State of California, described as follows:

LOT 2 OF PARCEL MAP 920, FILED DECEMBER 15, 2010, IN BOOK 316 OF PARCEL MAPS, AT PAGE 68, ALAMEDA COUNTY RECORDS.

APN: 947-0008-033

DA-EXHIBIT B

LIST OF CITY DEVELOPMENT IMPACT FEES

PUD-96, Pleasanton Gateway, LLC, Commons at Gateway Residential
Work Session to review and receive comments on an application for a Planned Unit Development (PUD) Development Plan to construct 210 apartment units, 97 single-family detached units, and related site improvements on an approximately 26.72-acre site located at 1600 Valley Avenue (south of the Pleasanton Gateway Shopping Center). Zoning for the property is PUD-HDR and MDR (Planned Unit Development-High Density Residential and Medium Density Residential) District.

Marion Pavan presented the staff report and described the scope, layout, and key elements of the application.

Chair Blank referred to page A0-8 of Exhibit B, View-2: along Interstate 680, and indicated that one of the things he likes to do is look at projects that the Commission has approved and see what they look like after they have been approved. He noted that when the Commission approved Safeway, there was a lot of discussion about the Commission not wanting it to look like an off-ramp in Van Nuys. He further noted that the trees right now have not grown in, and getting down off of I-680, it looks like an off-ramp in Van Nuys and does not even come close to the Pleasanton look. He added that the Commission wanted it to really look like nice as a gateway and not like a place that was inviting people to get off and get on, even though Safeway does since it wants to entice people to use the gas and all the other stuff in that complex.

Chair Blank stated that he was trying to understand why the view from the freeway, as demonstrated in this exhibit, looks the same as before, like the whole complex is going to be exposed to the freeway, and wanted to know if that is that because of the angle it is drawn at and the trees have been eliminated.

Mr. Pavan replied that he thinks it is because the trees were not shown so the Commission and the public could have as clear and unobstructed view of these buildings as possible. He noted that the applicant, Scott Trobbe, is present tonight and respond to the question.

Chair Blank stated that one of the things that might be helpful for when this application comes back is to have a visual of what it really looks like going down I-680 looking laterally as opposed to angularly.

THE PUBLIC HEARING WAS OPENED.

Scott Trobbe, Applicant, stated that it was great to be back before the Commission. He indicated that he loves this process and is looking forward to getting some input from the Commission.

Chair Blank asked Mr. Trobbe to excuse him for interrupting but he wanted it to be included in the record that there is somebody who loves this process.

Mr. Trobbe stated that he is not lying because he has been through it. He indicated that he will keep his comments to a minimum as it is a workshop and it is getting late. He stated that he wanted to start off with thanking staff. He noted that the Commission has heard him say before that he deals with a lot of municipalities, and it is always refreshing for him when he works with Mr. Dolan, Ms. Stern, Mr. Pavan, and the other members of the Planning staff. He added that the collaboration that comes through, which was started several months ago, and the dialogue that they have had has always been great. He noted that the City is very fortunate that its Planning staff is very loyal to the City, and it bears repeating.

Mr. Trobbe stated that before he goes into some big picture items, he would like to introduce his team, present here tonight to respond to comments and questions on project specifics: KTG, Project Architect, who has done a number of deals here in the City; Smith and Smith, Landscape Consultants; and RJA, Civil Engineers, who both have an equally wonderful reputation. He indicated that there is a set of questions that the Commission is being asked to address toward the end of Mr. Pavan's presentation. He added that he can either give a brief description of their vision for the project and how they arrived at where they are, have his team respond to any questions the Commission may have, or take testimony from the public first and then have his team respond to questions.

Chair Blank stated that he would like to hear from the public first, and then have Mr. Trobbe and his team answer any questions that may be raised.

John Moore stated that he is a member of the HOA for Walnut Hills, the subdivision adjacent to this development. He informed the Commission that Mr. Trobbe has reached out to them on multiple occasions, attended multiple HOA meetings, given his presentation, gone over his proposal with the HOA, allowed a dialogue and feedback from the HOA regarding neighborhood concerns, and received some feedback from the residents as well. He indicated that it has been a constant dialogue with Mr. Trobbe, who has given out his cell phone number and business card at meetings to let people know that they could contact him any time they have a question about the property or have a viewpoint they want to share. He added that Mr. Trobbe has taken some of their ideas and feedback into consideration in developing his proposal.

Mr. Moore stated that he wanted the Commission to know how nice the process is where there is open communication, where Mr. Trobbe is open to the ideas and the feedback of the residents, and where the residents have had an opportunity to voice their input.

As a homeowner wearing a different hat from that of an HOA board member, Mr. Moore stated that from what he has seen so far, the proposal looks like a quality development. He noted that they can already see the type of development the developer is able to produce in the Gateway property. He indicated that even though the trees have not yet grown as high as they would like them to, everyone is in agreement that the shopping center is a nice place to do business at. He added that he thinks this development will

also reflect a nice place for someone to live in, and a development like this adjacent to their development can only enhance what they have and the value of their property.

Sean Sowell stated that the project looks really good and nice to see how it unfolds. He indicated that one of the things he noticed on page 18 of Exhibit A is the suggestion to move the bus stop to another location along the boundary between Valley Avenue and the existing development. As he noted in his earlier comments on the previous item, he requested that the need for the mass transit system not be disregarded, as those people who use that system are not present tonight to say anything and because for most people, this is not going to be just one stop but probably two or three. He suggested that these people be involved in the process rather than just moving the bus stop after the fact.

Mr. Sowell stated that he is not familiar with how the negotiation processes work between staff and the developer and noted that with regard to the recently-approved California Center, there was an Option A, Option B, and Option C showing the kinds of units that were going in, but with Options B and C coming later in the process rather than as part of the original packet. He requested that the process be adjusted for this project so that anybody can look at the entire project from the outset as part of the original packet rather than only at the end of the process.

Skip Shieh stated that he lives in Pleasanton and that Pleasanton is the best place in which to live, not only in America but in the whole world. He indicated that he and his wife came to the United States from Taiwan some 55 years ago and lived in a Chicago area called Lake Forest, which is the best place in the Chicago area. He stated that they lived there for about ten years and said noted that America is nice compared to Taiwan. He stated that they then moved to the Miami area and lived in Coral Gable, again the best place in the Miami area, where they bought a house with a pool and said that Miami is better than the Chicago area. He continued that ten year later, they again transferred, this time to Bakersfield, where they built a nice house on a two-acre lot with a modern swimming pool and everything. He indicated that it was hot but doable, so ten years later, they again transferred to Cupertino and looked for a house near the University, but they did not like any of the houses there. He stated that they searched all around from Milpitas to San Ramon and found a two-acre place in Pleasanton and have lived there for about 25 years. He noted that In the meantime, they travelled all around the world and went to almost every country, and by comparison, they have come to the conclusion that Pleasanton is the best place in the world. He indicated that he saw the advertisement for this new development which includes apartment, and he thought the plan was perfect so anyone looking for the best place in which to live, can be guaranteed a place in Pleasanton. He stated that the plan is a balanced approach and commended the developers for doing a good job.

THE PUBLIC HEARING WAS CLOSED.

The Commission then considered the questions for discussion.

Commissioner Posson stated that he met with Mr. Trobbe and Mr. Sweeney to discuss this project.

Commissioners Pearce and Olson stated that they also met with Mr. Trobbe and Mr. Sweeney.

Commissioner O'Connor stated that he was invited to meet with the applicants but was out of town at that time.

Chair Blank stated that he was also invited but unfortunately was not available either. He thanked the applicants for their invitation.

Mr. Shieh inquired when the project was going to start construction.

Chair Blank replied that it would be a while as it needs to be approved first.

Questions: Site Design and Open Space

1. Is the site plan acceptable as to building locations, circulation, parking, and feathering of densities?

Commissioners Olson and Pearce said yes.

Chair Blank and Commissioner O'Connor stated that they were a definite "yes."

Commissioner Posson stated that he was a "yes" but with a couple of questions. He referred to the third paragraph under "1. Planning Commission Discussion" on page 10 of the staff report which states that staff does not support a continuous wall facing Valley Avenue and prefers that the private yards for the patios face Valley Avenue. He inquired what the rationale for that was.

Mr. Dolan replied that the plans evolved to include a solid wall, and as a matter of fact, staff discussed this with Mr. Trobbe, and he has agreed to go back to the original design. He noted that Mr. Pavan showed the details on one of the slides where it is a very-low-based brick with some wrought iron above it. He noted that it just makes it a little more open, not so closed off from Valley Avenue, but with a clear delineation of space and visually less overwhelming than a wall.

Commissioner Posson stated that with that clarification, he is a "yes."

2. Are the open space areas and amenities acceptable? Should a public park be provided on the project site?

Commissioner O'Connor stated that when the Commission talks about open space, he always wishes that there was a little more room between the homes as far as yard

space. With respect to a public park being provided, he stated that there is a huge one just outside the development and so he is fine with what is proposed here because of the proximity to the City park.

Commissioner Pearce said “absolutely.” She noted that it is adjacent to the Bernal Property so she does not see the need for an additional public park. She added that given the standards, she thinks the open space options and amenities are acceptable.

Commissioner Olson agreed.

Mr. Posson inquired what the future planning or zoning for the area south of this development is.

Mr. Dolan replied that that area is part of the whole Bernal Park.

Commissioner Posson stated that he is in favor of that.

Chair Blank agreed, stating that it is not like it is a long way to the nearest park. He noted that he thinks the open space within the environment is actually pretty good.

Questions: Building Designs

3. Does the Planning Commission support the proposed building architectural designs?

Commissioner Posson said yes..

Commissioners O'Connor and Olson stated that they love it.

Commissioner Pearce indicated that she thinks it is great.

Chair Blank stated that it actually has a fair amount of the Pleasanton look so he is pretty happy with it, although it could always look more like Pleasanton.

4. Are the house sizes, lot sizes, and floor area ratios for the proposed single-family homes acceptable?

Commissioner Olson said yes.

Commissioner Pearce stated that she really likes the three-story row houses and thinks that it is an interesting model that Pleasanton does not have. She added that she thinks it is going to be pretty popular.

Commissioner Olson agreed.

Commissioner O'Connor stated that, again, he always likes bigger lots, but yes, he likes it.

Commissioner Posson inquired how this compares with the density and lot sizes of the houses in Walnut Hills.

Mr. Pavan replied that the density of Walnut Hills is 5.5 units to the acre, and the density of the single-family detached for the proposed project is 4.9 units to the acre. In terms of lot sizes, he indicated that the minimum lot size adopted for Walnut Hills is 4,000 square feet but really averages about 4,800 square feet. He added that it was comparable to the proposed single-family homes of this project.

Commissioner Posson stated that he is good with it.

Chair Blank stated that they were acceptable.

Questions: Exceptions

5. Does the Planning Commission support granting the exceptions from the Standards:

- A4.5. Where head-in parking occurs, a landscaped finger with street tree is required an average of every ten spaces.***
- A5.b. Garage doors should be recessed at least two feet from building façade.***
- A8.b Publicly accessible parks, plazas, and/or open spaces are encouraged for all sites greater than five acres, especially those sites not in close proximity to public parks.***

Chair Blank requested confirmation that with respect to parking, the applicant is requesting a landscaped finger every 12 to 14 spaces, and that with respect to the garage doors, the applicant is requesting that recessed garages not be required as they face one another.

Mr. Pavan confirmed that both were correct.

Chair Blank stated that he was confused about the public accessible parks, plazas and open spaces because the project is in close proximity to a public park.

Mr. Pavan replied that since the Commission has already rendered its judgment about the adequacy of the open space, this probably has already been decided.

Chair Blank stated that the Commission will then consider just the first two exceptions.

Commissioner Pearce stated that she is pretty comfortable with these exceptions. She noted that the Commission has granted more exceptions for a variety of developments that have come forward and, quite frankly, if this is all the applicant is asking for, it

seems minor in the grand scheme of things, especially for what they are providing on the site.

Commissioners Posson, Olson, and O'Connor indicated that they are fine with the exceptions.

Chair Blank stated that he was fine as well. He noted that the Commission has granted the exception for garage doors before with other projects, but he thinks the Commission has not done the fingers before. He stated that the only other comment he would make, just generally speaking, is that, when the project come back with the real application, and it is really worth spending the dollars, the applicant get high quality visuals as much as possible. He indicated that the Commission has had some really great visuals where the viewer could actually drive down the streets and see the landscape. He stated that it is really important for the Commissioner to make sure the landscape really does work and that the applicant find trees on steroids. He commented that he wished the Commission had specified trees on steroids for the Safeway development, but the Commission did not know then that such a thing existed. He noted that the better the quality of the visuals, the better the Commission will be equipped to go with the project. He then addressed the applicant saying that he thinks the applicant got a good sense of what the Commission desires.

**Appendix A:
City of Pleasanton Resolution No. 12-493:
Certification of the Final EIR for the Housing
Element and Climate Action Plan**

RESOLUTION NO. 12-493

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PLEASANTON, CERTIFYING AS ADEQUATE AND COMPLETE THE FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE HOUSING ELEMENT (AND ASSOCIATED LAND USE CHANGES) AND THE CLIMATE ACTION PLAN

WHEREAS, the City of Pleasanton has prepared a Draft Housing Element (and associated land use changes identified in the City Council Agenda Report for the January 4, 2012 City Council meeting) and a Climate Action Plan ("Project") and is considering their adoption; and

WHEREAS, the City, acting as lead agency under the California Environmental Quality Act ("CEQA"), determined that a Supplemental Environmental Impact Report ("SEIR") was required for the Project (to supplement the City of Pleasanton's 2005-2025 General Plan EIR, which was certified in 2009). The NOP was distributed to all affected/interested agencies, organizations, and persons for a 30-day comment period beginning on August 22, 2011; and

WHEREAS, the City retained ESA to prepare a SEIR pursuant to CEQA for the proposed Project; and

WHEREAS, the City conducted an environmental scoping meeting on September 14, 2011 for members of the public to provide comments on items to be addressed in the EIR; and

WHEREAS, the City completed the Draft SEIR on September 26, 2011 and circulated it to affected public agencies and interested members of the public for the required 45-day public comment period, from September 27, 2011 to November 14, 2011; and

WHEREAS, the Planning Commission held a noticed public hearings on October 26, 2011, during the 45-day public comment period to receive comments on the Draft SEIR; and

WHEREAS, the City has also accepted and responded to comments received during the public comment period regarding the Draft SEIR from public agencies having jurisdiction by law, persons having special expertise with respect to any environmental impacts involved, and other persons and organizations having an interest in the Project; and

WHEREAS, on December 2, 2011, the City published the Final SEIR for the Project consisting of: the Draft SEIR, responses to comments received on the Draft EIR, and the revisions to the EIR considered by the Planning Commission on December 14, 2011; and

WHEREAS, at its noticed public hearing of December 14, 2011, the Planning Commission recommended that the City Council certify the Final EIR as adequate and complete; and

WHEREAS, Section 21000, et. seq., of the Public Resources Code and Section 15000, et. seq., of Title 14 of the California Code of Regulations (the "CEQA Guidelines"), which govern the preparation, content, and processing of environmental impact reports, have been fully implemented in the preparation of the SEIR; and

WHEREAS, on January 4, 2012, the City Council held a public hearing at which time interested persons had an opportunity to testify either in support or opposition to the Final SEIR.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF PLEASANTON DOES RESOLVE, DECLARE, DETERMINE, AND ORDER THE FOLLOWING:

SECTION 1. The City Council has independently reviewed, analyzed and considered the Final SEIR and all written documentation and public comments prior to making recommendations on the proposed Project, including the City's CEQA Findings and Statement of Overriding considerations, which document is incorporated by reference herein.

SECTION 2. The Final SEIR was prepared, publicized, circulated, and reviewed in compliance with the provisions of CEQA and the CEQA Guidelines.

SECTION 3. That the Final SEIR constitutes an adequate, accurate, objective, and complete EIR in compliance with all legal standards.

SECTION 4. The information and analysis contained in the Final SEIR reflects the City's independent judgment as to the environmental consequences of the proposed Project.

SECTION 5. The documents and other materials, including without limitation staff reports, memoranda, maps, letters and minutes of all relevant meetings, which constitute the administrative record of proceedings upon which the Council's resolution is based are located at the City of Pleasanton, Community Development Department, 200 Old Bernal Avenue, Pleasanton, CA 94566, and the custodian of the record documents is the Planning Manager.

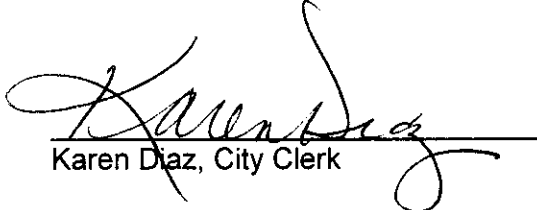
SECTION 6. The City Council certifies the SEIR attached as Exhibit A, and directs the filing of a Notice of Determination.

SECTION 7. This resolution shall become effective immediately upon its passage and adoption.

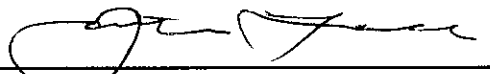
PASSED, APPROVED, AND ADOPTED by the City Council of the City of Pleasanton at a regular meeting held on January 4, 2012.

I, Karen Diaz, City Clerk of the City of Pleasanton, California, certify that the foregoing resolution was adopted by the City Council at a regular meeting held on the 4th day of January 2012 by the following vote:

Ayes: Councilmembers Cook-Kallio, McGovern, Sullivan, Thorne, Mayor Hosterman
Noes: None
Absent: None
Abstain: None


Karen Diaz, City Clerk

APPROVED AS TO FORM:


Jonathan P. Lowell, City Attorney

Appendix B: Air Quality and Greenhouse Gas Information

B.1 - Health Risk Assessment



Health Risk Assessment
The Commons at Gateway Project
Pleasanton, California

Prepared for:
Pleasanton Gateway LLC
Campbell, California

Prepared by:
ENVIRON International Corporation
San Francisco, California

Date:
June 2013

Project Number:
03-27891A

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Acronyms and Abbreviations

ACS	American Cancer Society	HRA	Health Risk Assessment
AAQ	Ambient Air Quality	HRSA	Health Risk Screening Analysis
ASF	Age Sensitivity Factor	I-680	Interstate 680
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers	IARC	International Agency for Research on Cancer
BAAQMD	Bay Area Air Quality Management District	IF _{inh}	Intake Factor for Inhalation
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes	ISCST3	Industrial Source Complex-Short Term
Cal/EPA	California Environmental Protection Agency	MERV	Minimum Efficiency Reporting Value
CBSC	California Building Standards Commission	NESHAP	National Emissions Standards for Hazardous Air Pollutants
CEQA	California Environmental Quality Act	NRC	National Research Council
CF	Conversion Factor	NSR	New Source Review
CPF	Cancer Potency Factor	OEHHA	Office of Environmental Health Hazard Assessment
CRAF	Cancer Risk Adjustment Factor	PM	Particulate Matter
cREL	Chronic Non-Cancer Reference Exposure Level	PM _{2.5}	Fine Particulate Matter
DPM	Diesel Particulate Matter	RAAC	Risk Assessment Advisory Committee
EIR	Environmental Impact Report	REL	Reference Exposure Levels
ENVIRON	ENVIRON International Corporation	TAC	Toxic Air Contaminant
ESA	Environmental Science Associates	TOG	Total Organic Gas
GDF	Gasoline Dispensing Facility	TSD	Technical Support Document
HI	Hazard Index	USEPA	United States Environmental Protection Agency
HQ	Hazard Quotient	WHO	World Health Organization

List of Units

kg	Kilogram	mg	Milligram
m	Meter	s	Second
m ³	Cubic Meter	μg	Microgram

1 Introduction

At the request of Pleasanton Gateway LLC, ENVIRON International Corporation (ENVIRON) conducted a health risk assessment (HRA) at a proposed residential development called The Commons at Gateway, in Pleasanton, California (herein referred to as the “Project” or the “Site”). Scheduled for occupancy as early as 2015, the Project will comprise approximately 14 acres with single-family detached homes; 7 acres with multifamily homes (approximately 30 units per acre) and 5.4-acres of common open space.

The purpose of this report is to present the results of the ambient air quality (AAQ) HRA of projected emissions from nearby sources, which is a requirement of the City of Pleasanton Final Supplemental Environmental Impact Report, Housing Element and Climate Action Plan (ESA 2012). ENVIRON followed methods recommended by the Bay Area Air Quality Management District (BAAQMD or District) in the May 2012 California Environmental Quality Act (CEQA) Guidelines (BAAQMD 2012a) to determine whether the Project would be below thresholds of significance as determined by the City of Pleasanton. A project’s impact on air quality is considered significant if it exceeds the significance thresholds.

1.1 Objectives and Methodology

The purpose of this health risk evaluation is to estimate the potential health impacts that may result from exposure to all local off-site sources, including (1) nearby BAAQMD permitted stationary sources; and (2) nearby high-volume roadways. The methodology for estimating cancer and non-cancer health effects is based on guidelines for assessing risks from the January 2010 Air Toxics New Source Review (NSR) Program HRSA Guidelines, prepared by the BAAQMD (2010).

Cancer risks, chronic non-cancer hazard indices (HIs) and fine particulate matter, also known as $PM_{2.5}$, are evaluated at the new receptor locations using residential exposure assumptions that are consistent with the District’s HRSA Guidelines. The chemical concentrations at these receptor locations from the nearby stationary sources are estimated using a BAAQMD-recommended model, the US Environmental Protection Agency’s (USEPA) Industrial Source Complex Short Term (ISCST3), with representative meteorological data collected and distributed by the BAAQMD for such analyses. This report presents an evaluation of the ISCST3 results based on BAAQMD provided data, which is discussed further in the sections below. The chemical concentrations at the receptor locations from the nearby surface streets and highway are estimated using CAL3QHCR, the USEPA’s and BAAQMD’s recommended model for evaluating impacts from roadways. Based on the modeling results, ENVIRON then developed quantitative estimates of cancer risks and non-cancer HIs associated with residential exposure to the pollutants that may be emitted from the nearby sources.

The effects of two mitigation strategies (a landscaped set-back area and filtration) were also analyzed. Additional information about the methods used in these analyses, as well as detailed tables summarizing the analyses, can be found in the attached Tables and Appendix B.

1.2 Report Organization

This report is divided into nine sections as follows:

Section 1.0 – Introduction: describes the purpose and scope of the AAQ HRA and outlines the report organization.

Section 2.0 – Site Description and Regulatory Background: presents a description of the proposed project and provides a review of the regulatory background for the HRA.

Section 3.0 – Chemical Selection: describes the selection of chemicals to be evaluated in the HRA.

Section 4.0 – Risk Characterization Methods: discusses the exposure pathways that may exist and the methods used to estimate potential cancer risks and chronic non-cancer HIs related to emissions from off-site sources.

Section 5.0 – Estimated Chemical Concentrations in Air: describes the methodology for the estimation of ambient air concentrations of pollutants emitted from the nearby stationary and mobile sources.

Section 6.0 – Results for Project Analysis: presents the results of the HRA in relation to significance thresholds.

Section 7.0 – Uncertainties: summarizes some of the uncertainties resulting from various assumptions used in the air dispersion evaluation as well as from those used in the emission inventory development.

Section 8.0 – Conclusions: summarizes the results of the HRA.

Section 9.0 – References: includes all references cited in this report.

The appendices include supporting information as follows:

Appendix A – Traffic Modeling: presents technical details of the traffic modeling.

Appendix B – Filtration Calculation: includes the technical details of the filtration calculations.

Appendix C – Stationary Source Inquiry Data: includes all data received from BAAQMD.

2 Site Description and Regulatory Background

The purpose of this section is to describe the proposed Project and provide a review of the regulatory background for the HRA.

2.1 Site Description

The proposed Pleasanton Gateway development is a residential housing project located in the City of Pleasanton, situated between Interstate 680 (I-680) and Valley Avenue to the West and East, respectively. Immediately north-northwest of the Site is a shopping center developed with a Safeway grocery store, beyond which is Bernal Avenue further north. The land to the south-southeast of the Site is undeveloped. The Project location is depicted in Figure 1.

Scheduled for occupancy as early as 2015, the Project will comprise approximately 14 acres with single-family detached homes; 7 acres with multifamily homes (approximately 30 units per acre) and 5.4-acres of common open space. Landscaping, including approximately 375 planted trees, will be present along the western Site boundary. In the southwestern corner of the Site, a combination landscaped berm and soundwall of approximately 14 to 16 feet in height will be surrounded by a grove of approximately 90 trees. All residential and common area buildings will be equipped with Minimum Efficiency Reporting Value (MERV) 13 filtration on the heating and cooling systems.

2.2 Regulatory Background

The City of Pleasanton certified an Environmental Impact Report (EIR) in early 2012 for certain General Plan Amendments and Rezoning, including the rezoning of the Pleasanton Gateway site. Mitigation Measure 4.B-4 requires that projects on sites where “screening thresholds are exceeded” shall prepare an HRA to assess exposure to toxic air contaminants (TAC) and shall implement mitigation measures recommended by the HRA necessary to reduce exposure to TACs to below “BAAQMD’s threshold of significance at the time of project approval.” However, BAAQMD currently has no adopted threshold and states that lead agencies should determine the appropriate threshold for themselves. The City of Pleasanton has not yet adopted thresholds of significance for the risks and hazards evaluated in this report; however, the United States Environmental Protection Agency (USEPA), BAAQMD, and other local agencies have provided guidance on acceptable limits.

The USEPA has long found 100 in a million to be an “acceptable” level of cancer risk for conducting air toxic analyses and making risk management decisions at the facility and community-scale level (BAAQMD 2009a). As described by the BAAQMD, the USEPA considers a cancer risk of 100 per million to be within the “acceptable” range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (1989), the USEPA states that it “...strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years.” Subsequent to the rulemaking, Congress endorsed this risk level as being acceptable when it codified this

portion of the benzene rulemaking in Section 112(f) of the Clean Air Act. 42 U.S.C. §7412(f)(2)(B). EPA continues to cite to this preamble language and the 100 in a million standard as presenting an acceptable level of risk when it conducts rulemakings in the air quality context. The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling (BAAQMD 2009a). Additionally, the City of San Francisco now uses a total cancer risk of 100 in a million from all off-site sources on all development projects. Thus, there is substantial evidence to utilize the 100 in a million threshold for cancer risk to evaluate the total potential impact from local off-site sources on the new on-site sensitive receptors.

Additionally, BAAQMD-recommended thresholds of 10 for chronic HI and $0.8 \mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$ were also used (BAAQMD 2012a), as shown in Table 6 (discussed later in this report). In accordance with CEQA guidelines, this report evaluates impacts from potential off-site sources (stationary and mobile sources within 1,000 feet of a project boundary) on new on-site sensitive receptors (here, future residents of the Project).

Both the stationary sources and roadway source evaluations required air dispersion modeling, and are discussed separately below and in Appendix A.

3 Chemical Selection

The purpose of this section is to identify the chemicals for quantitative evaluation in the HRA. The off-site sources considered in this HRA include: (1) two gasoline dispensing facilities (GDF); (2) a diesel-fueled emergency generator; and (3) high-volume roadways, which in this case is comprised of three surface streets and one freeway. The GDF emissions were broken up into tank emissions and use emissions. Based on BAAQMD's approach, chemicals modeled to account for these emissions include benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as hexane. For the off-site emergency generator, the BAAQMD recommends using diesel particulate matter (DPM) as a surrogate for all TAC emissions from diesel-fueled compression-ignition internal combustion engines, according to Footnote 6 of Table 2-5-1 of Regulation 2-5.

For on-road traffic, exhaust and evaporative TOGs from gasoline-fueled vehicles were evaluated based on the speciation profiles presented in the BAAQMD Recommended Method for Screening and Modeling Local Risk and Hazards (BAAQMD 2011b). These chemicals are identified in Appendix A (Table A.8), and include BTEX as well as DPM which is a surrogate for exposure to exhaust from diesel-fueled vehicles. Diesel exhaust, a complex mixture that includes hundreds of individual constituents (Cal/EPA 1998), is identified by the State of California as a known carcinogen (Cal/EPA 2011). Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole (Cal/EPA 2011). Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components" (Cal/EPA 2003).

4 Risk Characterization Methods

The following sections discuss in detail the various components required to conduct the HRA. Cancer risk and chronic HI at the Project were calculated from ambient annual and hourly concentrations using intake factors, cancer potency factors, and chronic reference exposure levels calculated consistent with Office of Environmental Health Hazard Assessment (OEHHA, Cal/EPA 2003) and BAAQMD guidance (2010).

4.1 Exposure Assessment

Potentially Exposed Populations: The on-site receptor populations included in this evaluation represent a lifetime exposure for a resident who moves to the Site at first date of occupancy (assumed to be early 2015) while her/his mother enters her third trimester of pregnancy, is born three months later and lives on site in the same location until s/he reaches 70-years of age. This is a very conservative assumption consistent with BAAQMD guidelines. As discussed further in Section 7, the USEPA has estimated that 50% of the population lives in the same residence for only 9 years, while only 10% remain in the same house for 26 years (USEPA 2011). Adults, moreover, spend about 66% of their total daily time at home (USEPA 2011), rather than the 100% assumed here.

Exposure Assumptions: The exposure parameters used to estimate excess lifetime cancer risks and chronic non-cancer HIs for all potentially exposed populations were obtained using risk assessment guidelines from BAAQMD (2010) and are presented in the attached Table 3.

Calculation of Intake: The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The inhalation intake factor for the potentially exposed resident is shown in Table 3. The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh} , by the chemical concentration in air, C_i . When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in OEHHA Hot Spots guidance (Cal/EPA 2003).

4.2 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories, cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment. Toxicity values for the chemicals evaluated in this analysis are summarized in Table 4.

4.3 Cancer Risk Adjustment Factors

The estimated excess lifetime cancer risks for a resident were adjusted using the cancer risk adjustment factors (CRAFs) recommended by BAAQMD (2010) based on the age sensitivity factors (ASFs) recommended in the Cal/EPA OEHHA Technical Support Document (TSD, Cal/EPA 2009a). This approach accounts for an “anticipated special sensitivity to carcinogens” of infants and children. Cancer risk estimates are weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age and by a factor of three for

exposures that occur from two years through 15 years of age. No weighting factor (i.e., an ASF of one, which is equivalent to no adjustment) is applied to ages 16 to 70 years. As described in Appendix A, annual emissions for each year were adjusted by the ASF assuming an infant was in the third trimester of pregnancy at the start of the project; the average CRAF is shown in Table 5.

4.4 Risk Characterization

Cancer risk and chronic HI were calculated using an approach that is consistent with OEHHA and BAAQMD guidance using annual ambient air concentrations, intake factors, cancer potency factors, and chronic reference exposure levels..

4.4.1 Estimation of Cancer Risks

Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF).

The equation used to calculate the potential excess lifetime cancer risk for the inhalation pathway is as follows:

$$\text{Risk}_{\text{inh}} = C_i \times CF \times \text{IF}_{\text{inh}} \times \text{CPF} \times \text{CRAF}$$

Where:

Risk_{inh}	=	Cancer Risk; the incremental probability of an individual developing cancer as a result of inhalation exposure to a particular potential carcinogen (unitless)
C_i	=	Annual Average Air Concentration for Chemical _i ($\mu\text{g}/\text{m}^3$)
CF	=	Conversion Factor ($\text{mg}/\mu\text{g}$)
IF_{inh}	=	Intake Factor for Inhalation ($\text{m}^3/\text{kg}\text{-day}$)
CPF_i	=	Cancer Potency Factor for Chemical _i ($\text{mg chemical}/\text{kg body weight}\text{-day}$) ⁻¹
CRAF	=	Cancer Risk Adjustment Factor (unitless)

4.4.2 Estimation of Chronic Non-cancer Hazard Quotients/Indices

The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration (which is equivalent to the average daily air concentration) to the chemical-specific non-cancer chronic reference exposure levels (RELs). When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient (HQ). To evaluate the potential for adverse chronic non-cancer health effects from

simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a hazard index or HI.

The equations used to calculate the chemical-specific HQs and the overall HI are:

$$\text{Chronic HQ}_i = C_i / \text{cREL}_i$$

$$\text{Chronic HI} = \sum \text{HQ}_i$$

Where:

Chronic HQ_i = Chronic Hazard Quotient for Chemical_i (unitless)

Chronic HI = Hazard Index (unitless)

C_i = Annual Average Air Concentration for Chemical_i (µg/m³)

cREL_i = Chronic Non-cancer Reference Exposure Level for Chemical_i (µg/m³)

5 Estimated Chemical Concentrations in Air

This section describes the estimation of chemical concentrations in the air at on-site locations.

5.1 Modeled Sources

5.1.1 Stationary Sources

BAAQMD has developed a Stationary Source and Risk Analysis Tool (“BAAQMD Risk Analysis Tool”) for permitted sources within the District to identify off-site stationary sources of TACs. ENVIRON utilized the BAAQMD Risk Analysis Tool to compile a list of potential stationary sources to be evaluated within 1,000 feet of the Project boundary (see Table 1 for the list of stationary sources evaluated).

The cancer risk and chronic HI from each of these stationary sources was modeled using the ISCST3 (USEPA 1995a and USEPA 1995b) in accordance with BAAQMD recommendations. These concentrations are used to assess the potential human health risks as described in Section 6.

Two GDFs were identified within 1,000 feet of the Project, Chevron Gas (also called, “Bernal Corners”) and Safeway. Chevron Gas, located at 1875 Valley Avenue, is approximately 350 feet northeast of the Project. The quantity of dispensing stations, allowable annual throughput, and benzene emissions per million gallons of gasoline throughput were provided in the risk screening memo provided by BAAQMD (2003), as shown in Appendix C.1. Emissions of other air toxics were calculated by scaling the individual compound’s evaporative losses by the evaporative losses of benzene as provided for Total Organic Gas (TOG) (BAAQMD 2012b). The Safeway GDF at 6782 Bernal Avenue is located in the adjacent parcel to the north-northwest of the Project, approximately 430 feet across a Safeway parking lot. At the time of modeling, BAAQMD had no risk estimations for the GDF; instead, BAAQMD provided ENVIRON with the Authority to Construct for the GDF, which states that the maximum gasoline throughput for any consecutive 12-month period at the Safeway GDF is limited to 13.6 million gallons of gasoline (BAAQMD 2012c), as shown in Appendix C.2. Emissions from the Safeway GDF were estimated by scaling the emissions estimated for the Chevron Gas GDF by the annual throughput. Other source release parameters necessary for modeling of both GDFs were identified from BAAQMD guidance (BAAQMD 2011a).

The City of Pleasanton owns and operates a diesel generator at the fire station at 1600 Oak Vista Way, which is within 1,000 feet of the Project boundary. In order to evaluate this generator, emissions and stack dimensions were provided in a memo from BAAQMD (2005), as shown in Appendix C.3. BAAQMD guidance was followed to estimate other release parameters.⁷

One dry cleaner was found within 1,000 feet of the Project boundary, but it has a risk of zero in one million in the BAAQMD Risk Analysis Tool, so it does not contribute to total local risk at the Project.

5.1.2 Roadways

BAAQMD CEQA Guidelines recommend performing a health risk assessment of all high volume roadways within 1,000 feet of the Project, which are defined as roadways with over 10,000 vehicles per day or 1,000 trucks per day. For the Project, I-680, Bernal Avenue, Valley Avenue, and four I-680 ramps fall into this category, as shown in Table 2 and Figure 1. Concentrations of TACs were estimated using CAL3QHCR, the USEPA's and BAAQMD's recommended model for evaluating impacts from roadways. CAL3QHCR reports concentrations at identified individual locations, called receptors.

5.2 Receptor Locations

Receptors were placed in a grid with 25-meter spacing across the Project. The height of the receptors is 1.8 meters, the breathing height recommended in BAAQMD CEQA Guidelines. The technical approach used to estimate air concentrations is described in Appendix A.

6 HRA Results

In this Section, the HRA results are compared to the risk thresholds.

6.1 Summary of Unmitigated Impacts on New Receptors from All Local Off-Site Sources

Results of the HRA, including cancer risks, chronic HI, and PM_{2.5} concentrations, are summarized in Table 6. These results are compared to the thresholds described in Section 2 above. Excess cancer risk and chronic HI do not exceed the threshold; however, the total PM_{2.5} concentration is slightly above the threshold. Results of the unmitigated scenario for cancer risk are shown in Figure 2.

6.2 Mitigation Analysis

As discussed in the previous section, the conservative analysis of the impact of all roadways and stationary sources shows that the lifetime cancer risk for an outdoor concentration with unobstructed air flows from the roadways is below the total risk threshold of 100 in a million. However, the PM_{2.5} concentration exceeds the threshold.

This conservative, unmitigated, analysis would not necessarily be characteristic of actual impacts on residents of the proposed Project as actual impacts would be reduced by vegetation, such as trees, obstructing air flow and filtering out particulate matter and MERV-13 filtration on air intakes and recirculation, which also filter out particulate matter. Further, actual impacts are likely much lower due to the conservative nature of the analysis. For example, most residents will not live in the proposed Project for 70 years and when they are living at the Project, will spend time away from home.

6.2.1 Landscaped Set-Back Area

ENVIRON evaluated the potential particulate matter removal and risk reduction that may be achieved by the presence of a vegetative barrier to mitigate the impacts of the I-680 highway. Recent scientific literature has detailed investigations conducted at the University of California at Davis on the effect of vegetative barriers in reducing air pollutant concentrations from roadway traffic exhaust. Fujii et al. (2008) evaluated the efficacy of three tree species (deoder, redwood and live oak, where deodars and redwoods are evergreens, and live oaks are deciduous) in removal of fine particulate matter at a variety of wind speeds. In general, deoder (a type of cedar) and redwood were the most effective over a range of wind speeds, with removal efficiencies of up to 50% at wind speeds in the 1 to 2 meters per second (m/s) range, decreasing to virtually zero removal at a wind speed of 3.5 m/s.

According to project landscaping plans (Smith+Smith 2013a), a total of approximately 375 redwood trees, planted approximately five to 10 feet apart, will be planted along the western perimeter of the Project. Additionally, in the southwestern corner of the Site where cancer risk was found to be the highest during preliminary modeling, a combination landscaped berm and soundwall of approximately 14 to 16 feet in height will be surrounded by a grove of approximately 90 trees. According to the project landscape architect, Jason Milam of Smith+Smith Landscape Architects, the redwood trees are evergreens and are expected to be approximately eight feet tall and three-and-a-half to four feet wide at the time of planting. At

maturity, redwood trees can measure up to approximately 100 feet high, with dense, heavy foliage. Redwood trees are considered fast-growing tree species and can grow at a rate of about three feet per year (Smith+Smith 2013b). The trees will be interspersed to mimic a natural forest, with approximately three to four rows of trees along the freeway. The trees will be planted in a naturalistic arrangement and are expected to grow in a way that will fill in all gaps between them so that the project is not visible from the highway. According to Smith+Smith, the trees will form a significant barrier in approximately five to ten years after planting. Shrubs are also planned along the southern and eastern perimeters (Smith+Smith 2013a). The combination of foliage will provide a continuous buffer from ground level upward.

To estimate the pollutant concentration and risk reduction from this vegetative barrier, ENVIRON assumed a mature tree height of 30 feet along the entire western boundary of the project site adjacent to the roadway. Thus emissions passing through the barrier from the I-680 highway only would be mitigated. To estimate the reduction in concentration and risk, the average concentration for each hour was modeled using CAL3QHCR, as discussed in previous sections. These hourly concentrations were adjusted based on the corresponding hourly wind speed at the BAAQMD's Pleasanton meteorological station for the year 2005.

Based on this approach, ENVIRON conservatively estimates that a 26 percent particle removal efficiency and risk reduction could be achieved by implementing a vegetative barrier along the western perimeter of the Site. The estimated lifetime cancer risk from all local off-site sources after this mitigation strategy has been applied is depicted in Figure 3.

The trees will exceed the 30-foot height assumed in this analysis after a period of approximately seven to eight years. It is important to note that residential cancer risk is based on a 70-year exposure period, the large majority of which would occur after the trees reach these heights. Though the proposed species may have canopy densities on the lower end of species analyzed in Fujii et al. (2008) when initially planted, it is reasonable to conclude that the three and four rows of trees proposed for the western edge of the Site will be similar to, if not more effective than, the single barrier of trees evaluated in Fujii et al. (2008).

6.2.2 Building Air Filtration

Further, the change in impacts after adding filtration to the air intake and the recirculation mechanical systems was evaluated. Additional information on this analysis (including input parameters) is presented in Appendix B. It is important to note that the required filtration efficiency necessary to reduce PM_{2.5} impacts below thresholds will depend on the final building design (e.g. ventilation and recirculation system) and individual residence design (e.g. size, location within the building). The air filtration analysis presented here was based on preliminary information provided by Pleasanton Gateway LLC on location and dimensions of residential buildings and ventilation and recirculation rates consistent with ASHRAE 62.2-2010 (ASHRAE 2010) which is required under the 2010 California Green Building Standards Code (also known as CALGreen, CBSC 2010).

The impact of the filtration on the cancer risk from DPM depends on the flows of air in and out of the building. These flows were identified as the flow of air through the forced ventilation, through recirculation, through open windows and doors, and through infiltration through cracks and

permeable surfaces facing outdoors. The impacts of the filtration were quantified assuming the residence is a completely-mixed volume (i.e., concentrations inside the home are the same regardless of location). Excess cancer risk from roadways is mostly attributable to DPM. The DPM can be filtered out of air traveling through the ventilation and recirculation using particulate filters; hence, a resident's cancer risk is reduced when inside their residence compared to their risk outdoors. However, unfiltered air can still enter the building through open windows or doors and through infiltration.

The analysis was based on conservative assumptions regarding resident behavior. Because window operation is controlled by the user and windows are not always open, the flows are not continuous throughout the day. Therefore, for this analysis the impact of the filtration was evaluated in hourly increments and an annual average risk was calculated. Residents are not always indoors, so their exposure when outside at the proposed site must be considered. The time spent outside by age group was obtained from EPA's Exposure Factor Handbook and weighted by years in each age bin and the age sensitivity factor. This equates to approximately three hours outside per day, which is conservative as all this time will not be spent at the proposed site. The risk during this outdoor time is assumed be equivalent to spending three hours in the outdoor "Commons" area located in the central portion of the Project complex. In other words, this analysis assumes that an individual will spend 21 hours per day inside their residence and three hours in the Commons, such that the individual is on the Site all day. The analysis also assumes that the individual is on the site for 350 days per year for 70 years.

This analysis assumes that MERV-13 or equivalent filters capable of at least 90% filtration efficiency for DPM/PM_{2.5} are installed on both the air intake and recirculation for the residences located at the Site, and that the filters operate at least during periods of heating and cooling. The estimated total lifetime cancer risk after this mitigation strategy has been applied is depicted in Figure 4.

6.3 Summary of Mitigated Impacts on New Receptors from All Local Off-Site Sources

The maximum estimated total cancer risk for new residents due to off-site stationary sources (including the modeling results for stationary sources within the 1,000-foot boundary) and highways and surface streets within 1,000 feet of the Project boundary, after mitigation, is 17 in a million, and does not exceed the significance threshold of 100 in a million (see Table 6 and Figure 5). Similarly, the estimated chronic HI and the annual average PM_{2.5} concentrations fall below the corresponding significance thresholds.

7 Uncertainties

Understanding the degree of uncertainty associated with each component of a risk assessment is critical to interpreting the results of the risk assessment. As recommended by the National Research Council ([NRC] 1994), [a risk assessment should include] “a full and open discussion of uncertainties in the body of each EPA risk assessment, including prominent display of critical uncertainties in the risk characterization.” The NRC (1994) further states that “when EPA reports estimates of risk to decision-makers and the public, it should present not only point estimates of risk, but also the sources and magnitude of uncertainty associated with these estimates.” Similarly, recommendations to Cal/EPA on risk assessment practices and uncertainty analysis from the Risk Assessment Advisory Committee (RAAC) were adapted from NRC recommendations (RAAC 1996). Thus, to ensure an objective and balanced characterization of risk and to place the risk assessment results in the proper perspective, the results of a risk assessment should always be accompanied by a description of the uncertainties and critical assumptions that influence the key findings of the risk assessment.

In accordance with the recommendations described above, ENVIRON has evaluated the uncertainties associated with this HRA, including emissions estimation, air dispersion modeling, and risk estimation. The following sections summarize the critical uncertainties associated with the emissions estimation, air dispersion modeling and risk estimation components of the risk assessment.

7.1 Estimation of Emissions

There are a number of uncertainties associated with the estimation of emissions from the sources evaluated that may affect the subsequent estimation of exposure concentrations and risk characterization. Emission factors were estimated based on the vehicle fleets of Alameda County, which may differ than the vehicle mix along the thoroughfares evaluated. Though EMFAC2011 presents emissions estimates through 2035, the database contains uncertainties related to future advances in vehicle technology, especially considering the emissions for 2035 were assumed to be constant over a 50 year period.

7.2 Estimation of Exposure Concentrations

There are a number of uncertainties associated with the estimation of exposure concentrations from air dispersion modeling of potential emissions from the Facility. This section briefly describes some of the uncertainties that may influence the exposure concentrations used in the risk characterization.

7.2.1 Estimates from Air Dispersion Models

As discussed in Section 5.2, the dispersion model ISCST3 was used to estimate average offsite DPM exposure concentrations at the various offsite receptor locations. This model uses the Gaussian plume equation to calculate ambient air concentrations from emission sources. For this model, the magnitude of error for the maximum concentration is estimated to range from 10 to 40% (USEPA 2005). Therefore, offsite exposure concentrations used in this assessment represent approximate offsite exposure concentrations.

7.2.2 Source Representation

The source parameters (*i.e.*, release velocity and release temperature) used to model emission points are sources of uncertainty. Source parameters were derived from information provided through the BAAQMD Stationary Source Inquiry, described above, for the stationary source modeling. The source parameters used to model emission sources add uncertainty. For all emission sources, ENVIRON used source parameters which were either recommended as defaults or expected to produce more conservative results. As there might be discrepancies in actual emissions characteristics of a source and its representation in the model, exposure concentrations used in this assessment represent approximate exposure concentrations.

7.2.3 Meteorological Data Selection

Uncertainty also exists in the meteorological data used in the ISCST3 and CAL3QHCR air dispersion models. On-site meteorological data were not available for the Facility and as such, ENVIRON used meteorological data from the Pleasanton meteorological station (approximately 3 miles North of the Site), as provided by BAAQMD, for air dispersion modeling. The uncertainties due to the use of offsite meteorological data resulted in approximate exposure concentrations.

7.3 Risk Characterization

7.3.1 Exposure Assumption Uncertainties

Consistent with BAAQMD guidance (BAAQMD 2010), risks were estimated assuming that hypothetical residents at the receptor points spend 70 years at one location. However, the USEPA has estimated that 50% of the population lives in the same residence for only 9 years, while only 10% remain in the same house for 26 years (USEPA 2011). Adults, moreover, spend about 66% of their total daily time at home (USEPA 2011), rather than the 100% assumed here. Accordingly, the actual risks to hypothetical residents at the modeled receptor locations are likely lower than those calculated in this assessment.

7.3.2 Toxicity Assessment Uncertainties

The Cal/EPA CPF for DPM was used to estimate cancer risks associated with exposure to DPM from the off-site generator. However, the CPF derived by Cal/EPA for DPM is highly uncertain in both the estimation of response and dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization (WHO), had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not provide an adequate basis for quantitative risk assessment (USEPA 2002). However, based on two recent scientific studies (Attfield 2012 and Silverman 2012), IARC recently re-classified DPM as Carcinogenic to Humans to Group 1 (IARC 2012), which means that the agency has determined that there is “sufficient evidence of carcinogenicity” of a substance in humans and represents the strongest weight-of-evidence rating in IARC’s carcinogen classification scheme. This determination by the IARC may provide additional impetus for the US EPA to identify a quantitative dose-response relationship between exposure to DPM and cancer.

7.3.3 Risk Calculation

The USEPA (1989a) notes that the conservative assumptions used in a risk assessment are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site. By using standardized conservative assumptions in a risk assessment, USEPA (1989b) further states that:

“These values [risk estimates] are upper-bound estimates of excess cancer risk potentially arising from lifetime exposure to the chemical in question. A number of assumptions have been made in the derivation of these values, many of which are likely to overestimate exposure and toxicity. The actual incidence of cancer is likely to be lower than these estimates and may be zero.”

The estimated risks in this risk assessment are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. Although it is difficult to quantify the uncertainties associated with all the assumptions made in this risk assessment, the use of conservative assumptions is likely to result in substantial overestimates of exposure, and hence, risk. BAAQMD acknowledges this uncertainty by stating: “the methods used [to estimate risk] are conservative, meaning that the real risks from the source may be lower than the calculations, but it is unlikely that they will be higher” (BAAQMD 2013).

8 Conclusions

The Project consists of new residential receptors which are subject to environmental impacts from stationary sources and nearby highways and surface streets. The conservative analysis described herein indicates that the proposed Project does not exceed the thresholds of significance for cancer risk and chronic HI effects, but is over the threshold for PM_{2.5}. With project design features such as setback from I-680, planting and maintenance of a vegetative tree barrier and filtration mitigations described above impacts are reduced by over 90% in all residential areas of the Project, as shown in Figure 6. The estimated annual average PM_{2.5} concentration exceeds the significance threshold prior to mitigation; however, after mitigations are implemented, the annual average PM_{2.5} concentration at the proposed Project is reduced to below the significance thresholds.

To provide perspective for the results of a risk assessment, the California Environmental Protection Agency (Cal/EPA) OEHHA indicates that the estimated cancer risks can be “compared to the overall risk of cancer in the general U.S. population” or “to the risk posed by all harmful chemicals in a particular medium, such as air. Based on recent ambient air monitoring data for the top 10 TACs that generally pose the greatest known ambient risk in California, the statewide number of excess cancer cases per million people over a 70-year, lifetime exposure is 680 for the year 2007 (Cal/EPA 2009b). More local to the Project, BAAQMD conducted a study of background risk in the nine counties that compose the District and found the risks in the greater Pleasanton area to be in the range of 400 to 800 in a million (BAAQMD 2009). Furthermore, the American Cancer Society (ACS) reports that nearly one in every two Californians will be diagnosed with cancer during their lifetime, corresponding to a background cancer risk of 500,000 in one million (ACS 2013).

9 References

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Tables

Table 1
Stationary Source Emissions
The Commons at Gateway
Pleasanton, CA

Source Number¹	Facility Name	Street Address	Source Type	Emissions (g/s)^{2,3}
N/A	Safeway Gas	Bernal Ave	GDF	1.3E-02
G10915	Bernal Corners/Chevron Gas	1875 Valley Ave	GDF	6.6E-03
16937	City of Pleasanton	1600 Oak Vista Way	Diesel Generator	4.0E-05
5315	Bernal Cleaners	6654 Koll Center Pkwy	Dry Cleaner	0

Notes:

1. All facilities within 1,000 feet of the proposed project as identified in the BAAQMD Stationary Source Screening Analysis Tool consistent with BAAQMD guidance. If a source was just further than 1,000 feet, and the address associated with the source is within 1,000 feet, the source was conservatively included here.

2. Emissions from the GDFs are presented as total air toxic emissions. Benzene emissions from Bernal Corners GDF are as provided in the risk screening memo for the Bernal Corners GDF from BAAQMD (March 27, 2003). Emissions of other air toxics were calculated relative to the benzene concentration as provided by BAAQMD in the Recommended Methods for Screening and Modeling Local Risks and Hazards (table of speciated Total Organic Gases from evaporative sources). Emissions from the Safeway GDF were calculated by scaling the emissions from the Bernal Corners GDF by the expected annual gasoline throughput.

3. Emissions from the City of Pleasanton Diesel Generator are as presented in the risk screening memo for the City of Pleasanton as provided by BAAQMD.

Abbreviations:

GDF - gasoline dispensing facility
g/s - grams per second
N/A - not applicable

References:

BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Memo from Catherine Fortney to Raymond Salalila, BAAQMD. 2005. Application #12285; City of Pleasanton. April 21.

Memo from Hari Doss, to Madhav Patil, BAAQMD. 2003. Risk Screening for Bernal Corners GDF; GDF # 10915; Application #7133. March 27.

Table 2
Modeled Roadways
The Commons at Gateway
Pleasanton, CA

Roadway ¹	ADT ²
	vpd
I-680	125,719
I-680 - Northbound Offramp	3,981
I-680 - Northbound Onramp	11,629
I-680 - Southbound Offramp	11,943
I-680 - Southbound Onramp	4,400
Bernal Avenue - West of I-680	21,482
Bernal Avenue - East of I-680	27,501
Valley Avenue - North of Bernal Avenue	4,878
Valley Avenue - South of Bernal Avenue	13,284

Notes:

1. All roadways within 1,000 feet of the Project.
2. ADT calculated as described in Appendix A.

Abbreviations:

I-680 - Interstate 680
ADT - average daily traffic
vpd - vehicles per day

References:

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2011. Available online: <http://traffic-counts.dot.ca.gov/>
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**Table 3
Exposure Parameters
The Commons at Gateway
Pleasanton, CA**

Exposure Parameter	Units	Resident	
		Lifetime	Child
Daily Breathing Rate (DBR) ¹	[L/kg-day]	302	581
Exposure Time (ET) ²	[hours/24 hours]	24	24
Exposure Frequency (EF) ³	[days/year]	350	350
Exposure Duration (ED) ⁴	[years]	70	9
Averaging Time (AT)	[days]	25550	25550
Intake Factor, Inhalation (IF _{inh})	[m ³ /kg-day]	0.29	0.072

Notes:

1. Daily breathing rates for residents reflect default breathing rates from BAAQMD 2010.
2. Exposure time for residents reflect default exposure time from BAAQMD 2010.
3. Exposure frequency for residents reflect default exposure frequency from BAAQMD 2010.
4. The exposure duration for residents reflect default exposure duration from BAAQMD 2010.

Calculation:

Resident Adult and Child:

$$IF_{inh} = DBR * ET * EF * ED * CF / AT$$

$$CF = 0.001 \text{ (m}^3\text{/L)}$$

Abbreviations:

BAAQMD - Bay Area Air Quality Management District

L - liter

kg - kilogram

m³ - cubic meter

References:

Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.

Table 4
Toxicity Values
The Commons at Gateway
Pleasanton, CA

Chemical	CAS Number	Cancer Potency Factor	Chronic Reference Exposure Level	Acute Reference Exposure Level
		[mg/kg-day] ⁻¹	µg/m ³	µg/m ³
Diesel PM	9-90-1	1.1	5	
Acetaldehyde	75-07-0	0.01	140	470
Acrolein	107-02-8		0.35	2.5
Benzene	71-43-2	0.1	60	1300
1,3-Butadiene	106-99-0	0.6	20	
Ethylbenzene	100-41-4	0.0087	2000	
Formaldehyde	50-00-0	0.021	9	55
Hexane	110-54-3		7000	
Methanol	67-56-1		4000	28000
Methyl Ethyl Ketone	78-93-3			13000
Naphthalene	91-20-3	0.12	9	
Propylene	115-07-1		3000	
Styrene	100-42-5		900	21000
Toluene	108-88-3		300	37000
Xylenes	10-60-5		700	22000

Notes:

1. All fractions are from USEPA Speciation Profile 4674 for Medium Duty Trucks.
2. All fractions are provided by BAAQMD (BAAQMD 2012).

Abbreviation:

BAAQMD - Bay Area Air Quality Management District
 TOG - total organic gas
 USEPA - United States Environmental Protection Agency

Reference:

BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Table 5
Cancer Risk Adjustment Factor¹
The Commons at Gateway
Pleasanton, CA

Receptor	Cancer Risk Adjustment Factor (CRAF)
Lifetime Resident ²	1.7

Notes:

1. CRAF based on ASF recommendations by the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) 2009 and BAAQMD 2010.
2. Based on BAAQMD 2010.

Abbreviations:

ASF - Age Sensitivity Factor
 BAAQMD - Bay Area Air Quality Management District
 Cal/EPA - California Environmental Protection Agency
 CRAF - Cancer Risk Adjustment Factor
 OEHHA - Office of Environmental Health Hazard Assessment

References:

Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.
 Office of Environmental Health Hazard Assessment (OEHHA). 2009. Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures. May.

Table 6
Summary of Risk and Hazard Analyses for Maximally Impacted New On-Site Receptor
The Commons at Gateway
Pleasanton, CA

Source Type	Source	Cancer Risk (in a million)		Chronic Hazard Index (-)	PM _{2.5} (µg/m ³)	
		Unmitigated	Mitigated ²		Unmitigated	Mitigated ³
Stationary Sources (Modeled)	Safeway Gas	3		0.002	N/A	
	Bernal Corners/Chevron Gas	1		0.04	N/A	
	City of Pleasanton ¹	0.01		2E-04	2.4E-05	
	Bernal Cleaners	0		0	0	
Highways & Surface Streets	Interstate 680	73	16	0.06	0.8	0.2
	Interstate 680 Ramps	3	0.7	0.002	0.03	0.01
	Bernal Avenue	2	0.5	0.002	0.03	0.006
	Valley Avenue	2	0.4	0.002	0.03	0.007
Total Risk from All Local Sources⁴		75	17	0.1	0.83	0.24
<i>Threshold</i>		100		10	0.8	
<i>Exceeds Threshold?</i>		No	No	No	Yes	No

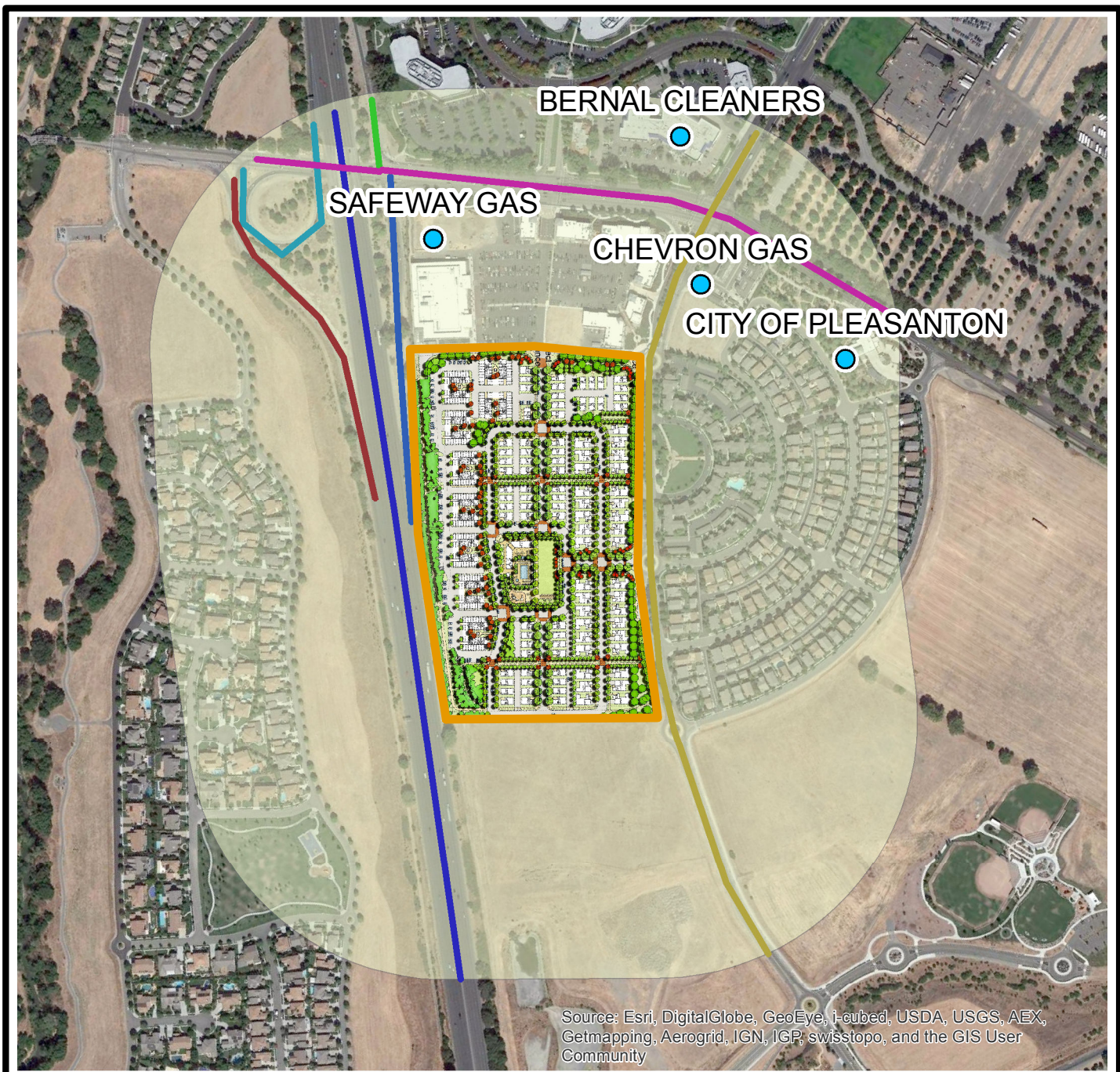
Notes:

1. Diesel PM from the City of Pleasanton generator is conservatively assumed to be comprised only of PM_{2.5}.
2. Cancer risks for the mitigated scenario assume residential building filtration consisting of MERV 13 filters installed on heating and cooling systems. For this analysis of overall risk reduction due to air filtration, receptors are assumed to spend 3 hours/day outdoors in the Commons Area and have at least one residential window open when the temperature is between 65 and 80 degrees Fahrenheit, which equates to approximately 5.5 hours/day.
3. Mitigation scenario for PM_{2.5} uses the average reduction from cancer risk by source as a surrogate for reductions in PM_{2.5}.
4. The maximum values for different sources may not occur at the same receptor location. Thus, the value at the maximally impacted new on-site receptor presented here is less than the sum of values from each source type.

Abbreviations:




m: meter
 MERV: Minimum Efficiency Reporting Value
 µg: microgram
 N/A: not applicable
 PM: particulate matter

Figures










Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

-  Project Boundary
-  1,000ft Zone of Influence
-  Stationary Source Locations

Roadways Modeled

-  Bernal Avenue
-  I-680
-  I-680 Northbound Offramp
-  I-680 Northbound Onramp
-  I-680 Southbound Offramp
-  I-680 Southbound Onramp
-  Valley Avenue

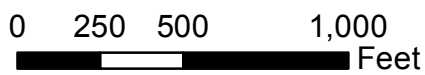
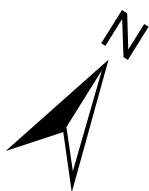
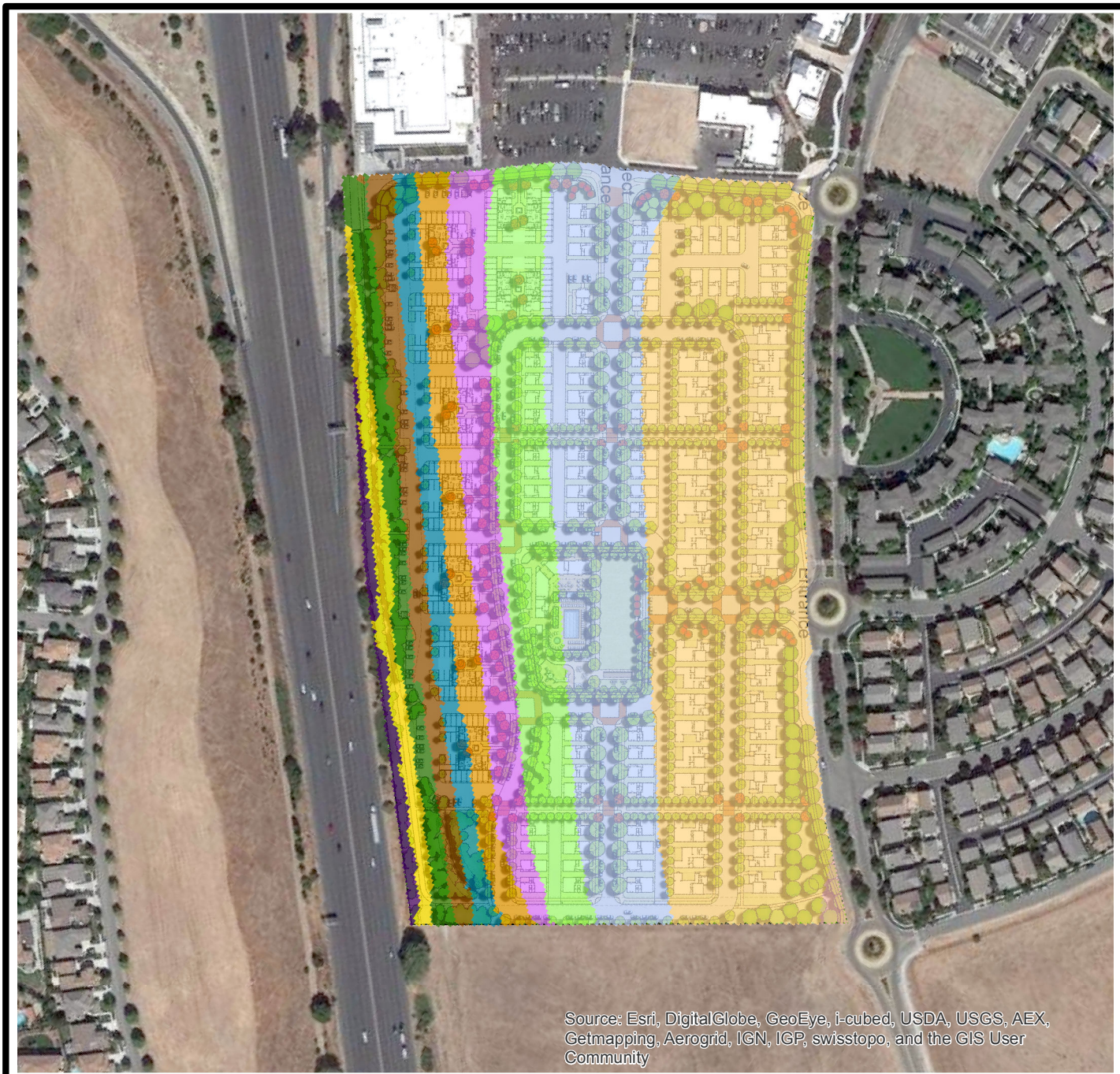













Figure 1
Project Location
and Off-Site Sources
The Commons at Gateway
Pleasanton, CA





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

Cancer Risks		40 - 50		90 - 100
(in a million)		50 - 60		100 - 110
		60 - 70		110 - 120
		70 - 80		
		80 - 90		
		10 - 20		
		20 - 30		
		30 - 40		

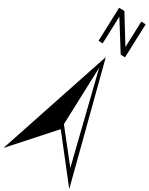
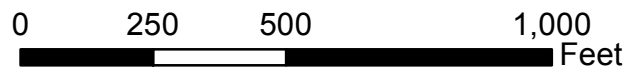
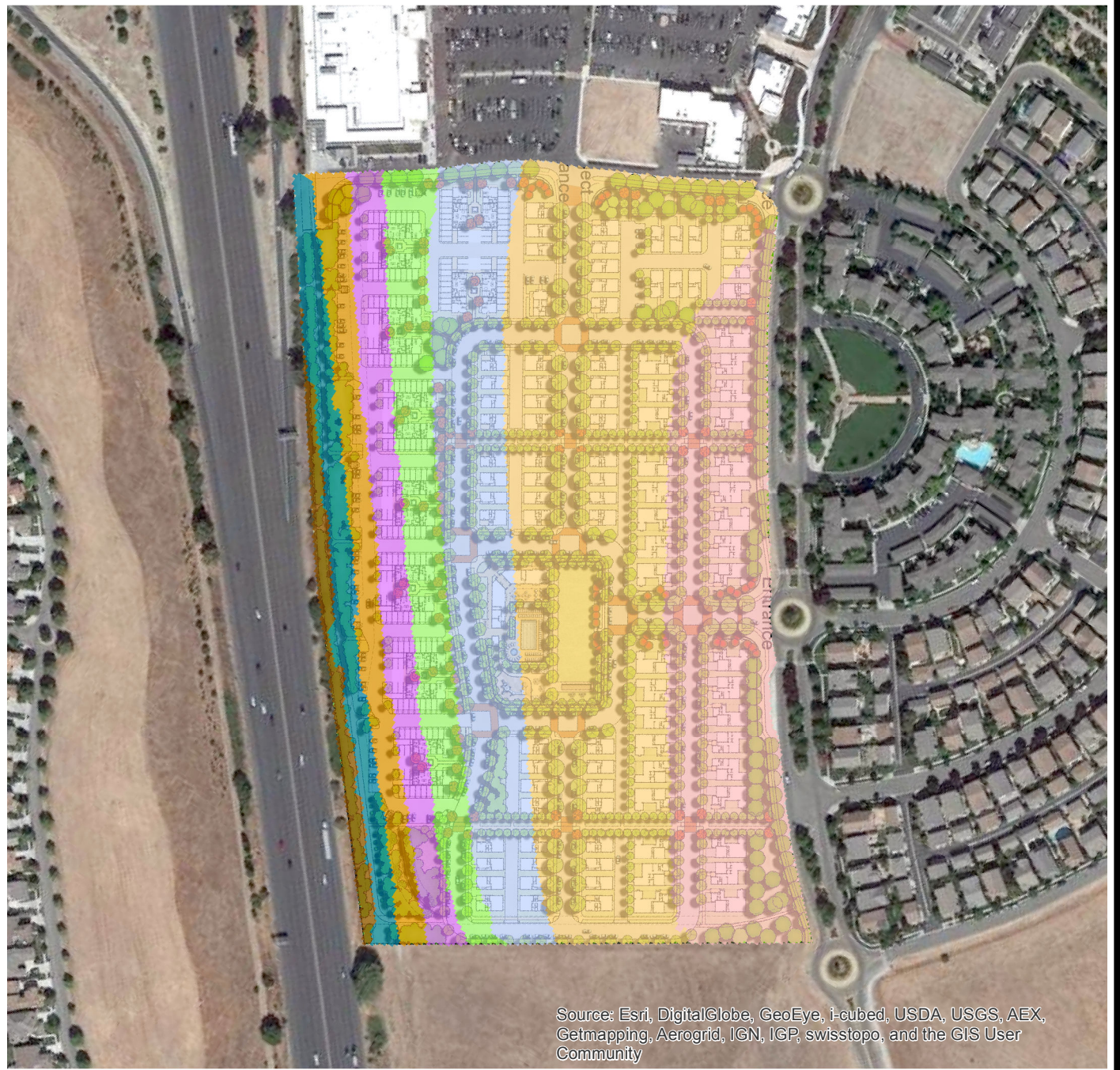


Figure 2
Total Cancer Risk
(Unmitigated)
The Commons at Gateway
Pleasanton, CA









Sources: All
 Mitigations: None





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

Cancer Risk		40 - 50
(in a million)		50 - 60
		10 - 20 60 - 70
		20 - 30 70 - 80
		30 - 40 80 - 90

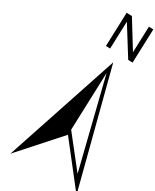
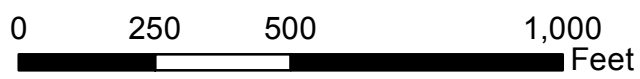
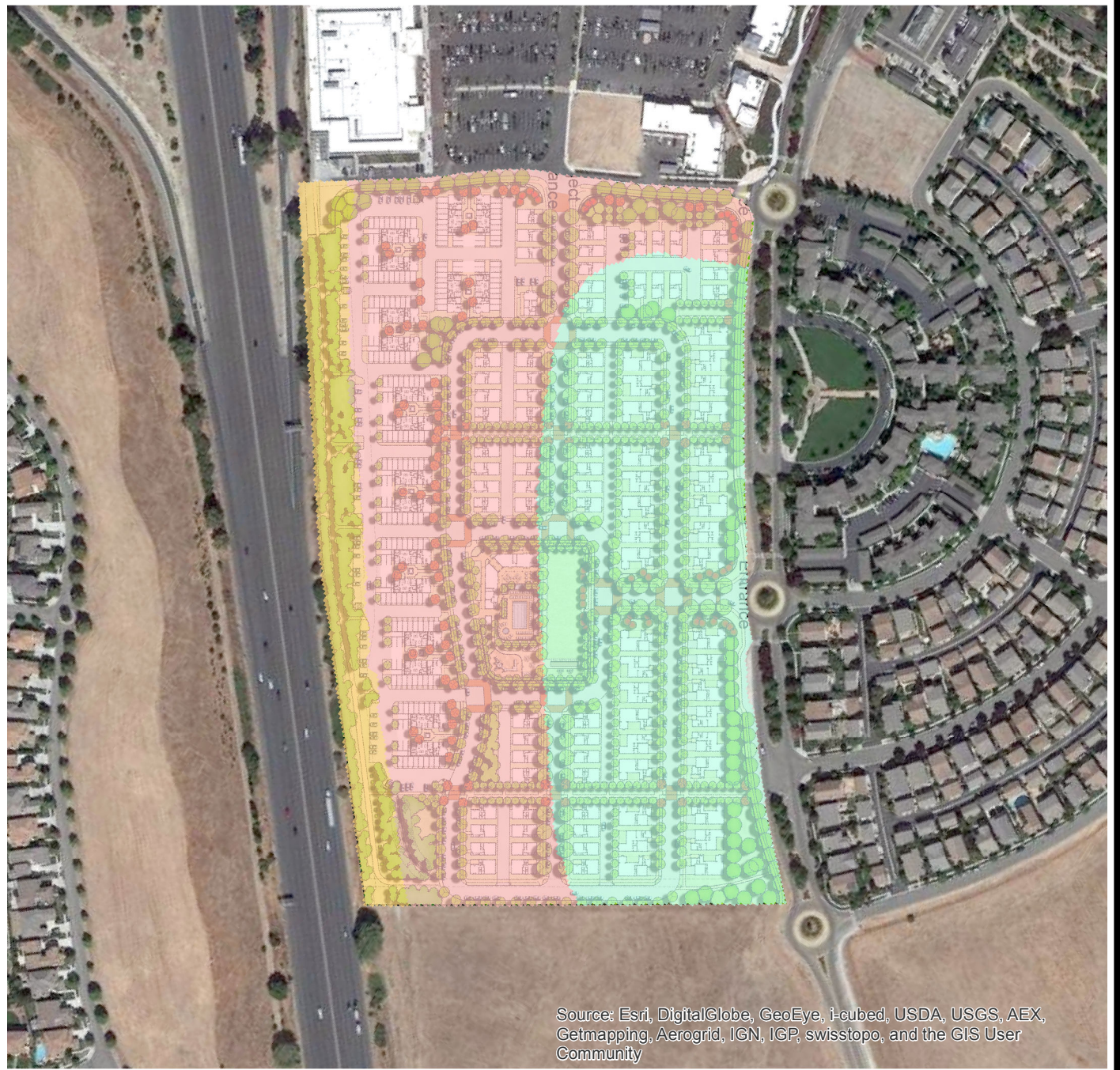


Figure 3
Total Cancer Risk
(Mitigated)
The Commons at Gateway
Pleasanton, CA

Sources: All
 Mitigations: Landscaped Set-Back Area
 (Trees and Other Vegetation)



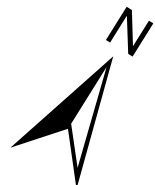


Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

Cancer Risk (in a million)

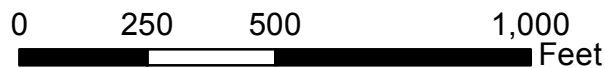
- 5 - 10
- 10 - 20
- 20 - 30

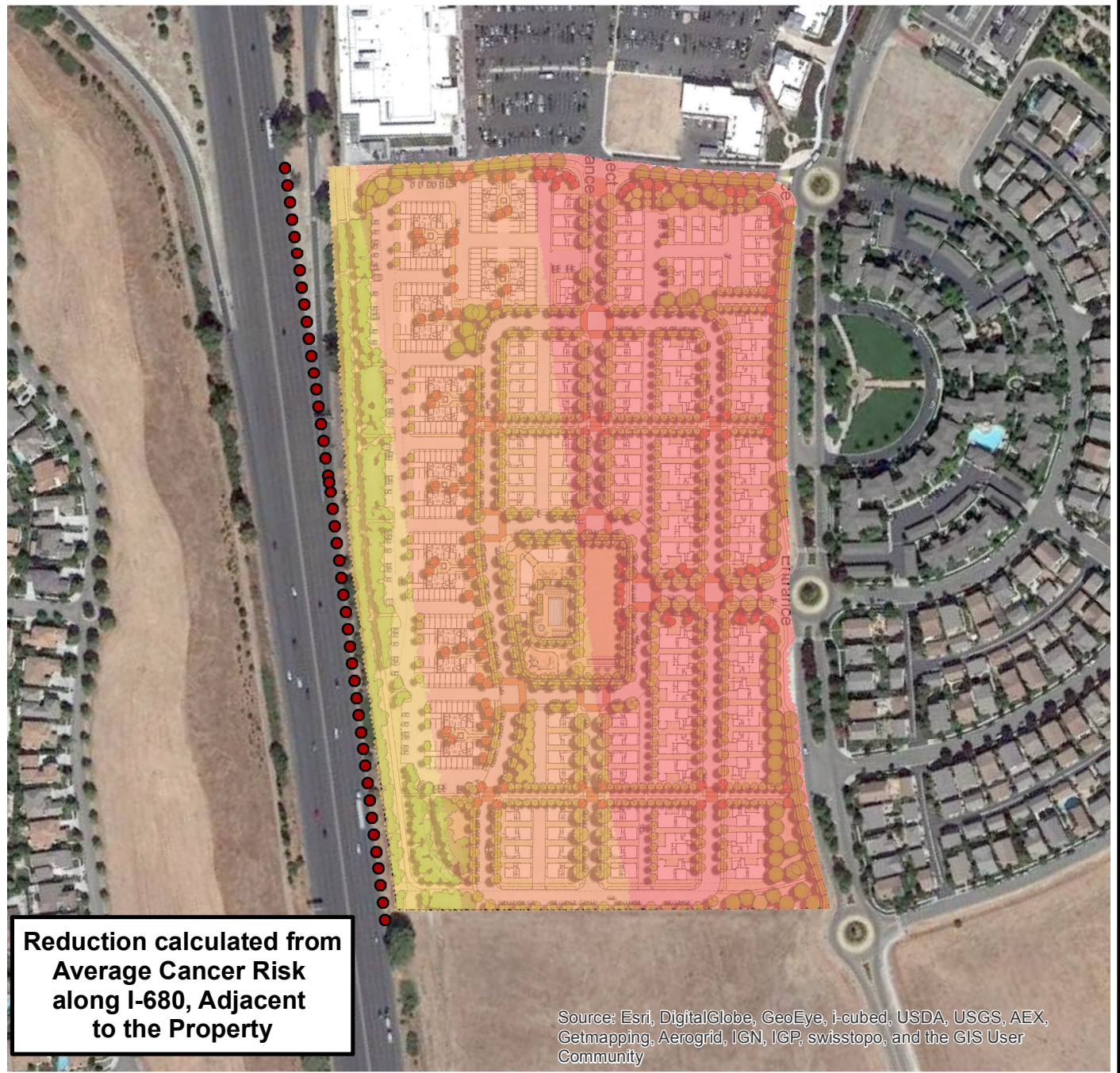


Sources: All

Mitigations: Landscaped Set-Back Area
(Trees and Other Vegetation)
Filtration

Figure 4
Total Cancer Risk
(Mitigated)
The Commons at Gateway
Pleasanton, CA





**Reduction calculated from
Average Cancer Risk
along I-680, Adjacent
to the Property**

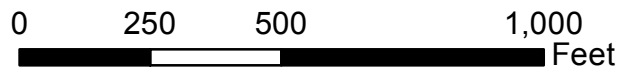
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

**I-680 Risk Reduction
(percent)**

- 85% - 90%
- 90% - 95%
- 95%+

Sources: All
Mitigations: Set-Back
Landscaped Area (Trees and Other Vegetation)
Filtration



**Figure 5
I-680 Cancer Risk Reduction
from Mitigation Measures
The Commons at Gateway
Pleasanton, CA**

Appendix A
Traffic Modeling Technical Appendix

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Acronyms and Abbreviations

ADT	Average Daily Traffic
ARB	Air Resources Board
ASF	Age Sensitivity Factor
BAAQMD	Bay Area Air Quality Management District
CALTRANS	California Department of Transportation
CEQA	California Environmental Quality Act
CM	Centimeters
DPM	Diesel Particulate Matter
EMFAC	EMission FACtor Model
ENVIRON	ENVIRON International Corporation
HRA	Health Risk Assessment
I-680	Interstate 680
OEHHA	Office of Environmental Health Hazard Assessment, State of California
PM _{2.5}	Fine Particulate Matter Less than 2.5 Micrometer in Diameter
TAC	Toxic Air Contaminant
TOG	Total Organic Gases
USEPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled

A.1 Introduction

As discussed in the body of this report, ENVIRON International Corporation (ENVIRON) prepared a Health Risk Assessment (HRA) for Pleasanton Gateway LLC for The Commons at Gateway Project in Pleasanton, California (“Project”). As part of this HRA, the health risk from nearby roadways were evaluated using methods consistent with the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act (CEQA) Guidelines¹ and Recommended Methods for Screening and Modeling Local Risks and Hazards.² This appendix discusses the methodology used in the HRA for risk from roadways near the Project. Consistent with BAAQMD guidance, all roadways within 1,000 feet of the project with over 10,000 average daily traffic (ADT) were modeled using CAL3QHCR.

A.2 Technical Approach

Fine particulate matter Less than 2.5 Micrometer in Diameter (PM_{2.5}) and toxic air contaminant (TAC) concentrations from Project and background traffic on major roadways at existing sensitive receptors were estimated using CAL3QHCR, United States Environmental Protection Agency (USEPA’s) and BAAQMD’s preferred model for determining air pollutant concentrations from traffic. CAL3QHCR incorporates hourly emission factors and traffic volumes with a full year of hourly meteorological data to estimate air concentrations for inert pollutants including particulate matter, such as diesel particulate matter (DPM) and gaseous TACs. For the HRA, the following TACs associated with traffic were evaluated:

- DPM from diesel-fueled vehicles;
- Total organic gas (TOG) from the exhaust of diesel-fueled vehicles;
- TOG from the exhaust of gasoline-fueled vehicles;
- Evaporative TOG from gasoline-fueled vehicles;
- PM_{2.5} from the exhaust of all vehicles; and
- PM_{2.5} from the brake and tire wear of all vehicles.

Air dispersion models, such as CAL3QHCR, require a variety of inputs, such as source geometry (e.g., configuration of roadways), hourly traffic volumes, hourly emission factors, meteorological parameters, topography information, and receptor parameters. When site-specific information is unknown, default parameter sets were used that are designed to produce conservative (i.e., overestimates of) air concentrations.

As mentioned above, BAAQMD CEQA Guidelines recommend performing a health risk assessment of all roadways within 1,000 feet of the Project with over 10,000 vehicles per day or 1,000 trucks per day. For the Project, Interstate 680 (I-680), Bernal Avenue, Valley Avenue, and two I-680 ramps fall into this category. To be conservative, all four ramps within 1,000 feet of the Project were included in the analysis.

¹ BAAQMD. 2012. California Environmental Quality Act Air Quality Guidelines. May.

² BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Occupancy of the Project is expected to begin as early as 2015. Therefore, the roadway health risk assessment incorporates emission factors and traffic volumes starting in 2015.

A.2.1 Emission Factors

Emission factors were estimated for the pollutants bulleted above using California Air Resources Board (ARB's) most recent on-road emission estimator model, EMFAC2011.³ EMFAC2011 is composed of a series of models that estimate emissions by certain area designations. To estimate emissions, the SG and LDV modules were used for Alameda County.

Total county emissions (in units of tons/year) and total daily Vehicle Miles Traveled (VMT) (in units of miles/year) for each vehicle class, fuel type, and TAC were obtained from the SG Module of EMFAC2011. The SG Module incorporates emission reductions from ARB's On-Road Heavy-Duty Diesel Vehicles Regulation. These total emissions were converted to emission factors (in units of grams/mile) using the total VMT.

CAL3QHCR requires one emission factor for a pollutant for each hour. Therefore, an emission factor that is the weighted average of vehicle class specific emission factors was calculated using the percentage of each vehicle class for each hour. The vehicle classes considered for estimating concentrations of each TAC are shown in Appendix Table A.1. Percentage of VMT is used as a surrogate for actual fleet mix of vehicles on the road. For non-diesel heavy duty vehicles, the hourly percentage of each vehicle class was calculated using hourly VMT reported in "Burden Mode" of the LDV Module of EMFAC2011. Information on diesel heavy duty vehicles is not estimated in the LDV Module, nor is hourly VMT for these vehicles reported in any EMFAC2011 Module. Therefore, the hourly percentage of total VMT for each diesel heavy duty vehicle was obtained directly from ARB⁴ and is shown in Appendix Table A.2.

EMFAC VMT data for all of Alameda County incorporates the total Alameda County truck percentage. Truck percentages can vary greatly from road to road or highway to surface street, and trucks tend to have higher emission factors per mile than other vehicles. Therefore, actual truck percentages on individual roadways are important. California Department of Transportation (Caltrans) estimates truck counts on California Highways.⁵ For I-680, a truck percentage of 6.5%, the percentage at the junction with I-580, was used. For surface streets where specific truck counts are not known, the BAAQMD recommended default percent for surface streets in Alameda County, 4.09%, was used. Default daily percentages of VMT obtained from Emission FACtor Model (EMFAC) were adjusted to be consistent with these estimates.

Hourly weighted emission factors are shown in Appendix Table A.3.

³ Available online: <http://www.arb.ca.gov/msei/modeling.htm>

⁴ Personal Communication between Jennie Louie (ENVIRON) and Kathy Jaw (ARB). October 13, 2011.

⁵ California Department of Transportation's Traffic Data Branch. 2011. Truck Traffic 2010. Available online: <http://traffic-counts.dot.ca.gov/>

A.2.2 Hourly Traffic Volumes

Average daily traffic volumes along each roadway were obtained from Caltrans's Traffic Data Branch^{6,7} and the City of Pleasanton.⁸ As shown in Appendix Table A.4, traffic volumes were projected from the base year to the expected 2015 traffic volumes using the increase in total VMT for the County as estimated in EMFAC2011.

Daily traffic volumes were converted to hourly traffic volumes using an assumed percentage of traffic for each hour. Hourly VMT calculated for emissions was used to estimate percentage of traffic for each hour, which is shown in Appendix Table A.5.

A.2.3 Hourly Percent of Vehicle Fuel Type

Because the emissions of some TACs depend on the fuel burned in combustion, the hourly traffic volumes must be broken down into diesel and gasoline fueled traffic volumes. The hourly percentage of diesel and gasoline fueled vehicles is calculated using the fraction of VMT at each hour that are diesel or gasoline fueled, similar to the method used for fleet mix of vehicles. Hourly VMT calculated for emissions was used to estimate the percentage of diesel and gasoline fueled vehicles reported in Appendix Table A.5.

A.2.4 Roadway Source Geometry

The roadway geometry used in the model was determined using an aerial map of the Project area. Consistent with CAL3QHCR guidance, each roadway was broken into a series of straight segments, or "links", which have constant emission factors and traffic volumes. The width of the link includes all travel lanes and, consistent with CAL3QHCR guidance, an additional three meters on each side to account for the turbulent mixing of air behind the moving vehicles. Figure X of the report shows the modeled roadways.

A.2.5 Meteorological Data

To characterize the transport and dispersion of pollutants in the atmosphere, CAL3QHCR requires hourly meteorological data in the same format as the data required by the Industrial Source Complex Short Term Model (ISCST3), another EPA air dispersion model. BAAQMD provides meteorological data in this format from stations around the Bay Area. For this analysis, meteorological data from 2005 from the Pleasanton Station (Site ID 1905) with a mixing height of 300 meters was used. This site is approximately 3 miles North of the Project.

An important consideration in an air dispersion modeling analysis is the selection of rural or urban dispersion coefficients. As discussed in the AERMOD model section, the rural designation was chosen, which results in the use of the rural mixing height found in the meteorological data and rural dispersion parameters. An analysis of the surface roughness of the area was completed and 57 centimeters (cm) was determined to be the most appropriate roughness based on the land uses in the area.

⁶ California Department of Transportation's Traffic Data Branch. 2011. Traffic Volumes 2010. Available online: <http://traffic-counts.dot.ca.gov/>

⁷ California Department of Transportation's Traffic Data Branch. 2011. Ramp Volumes 2010. Available online: <http://traffic-counts.dot.ca.gov/>

⁸ City of Pleasanton. Traffic Counts Map. Available online: <http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html>

A.2.6 Scaling Factors

Excess lifetime cancer risks are calculated assuming a 70 year exposure. Vehicular emission factors are expected to decrease with time due to the improvement of engines and increasingly stringent engine control regulations. Additionally, due to physiological and developmental differences as compared to adults, infants and children are anticipated to have special sensitivity to carcinogens.⁹ Hence, impacts from roadways would be expected to be greater in earlier years. To take into account the decreasing emission factors and toxicity with time, BAAQMD recommends multiplying emission factors calculated for the occupancy year by 70-year age sensitivity weighted average scaling factors. These scaling factors are calculated using the following method, consistent with BAAQMD guidance.

Average daily emission factors are estimated for each TAC for each year following occupancy until 2035, the final year EMFAC2011 estimates emissions. These emission factors are calculated using the same methodology described above, but are estimated using total daily vehicle class percentages instead of hourly percentages. These yearly emission factors are combined with BAAQMD's recommended Age Sensitivity Factors (ASF) to estimate the 70 year ASF-weighted average emission factors, as shown in Appendix Table A.6. The scaling factor is the difference between the weighted emission factor and the emission factor for the first year of occupancy and is shown in Appendix Table A.7.

A.2.7 Speciation

The cancer risk and chronic non-cancer indices are based on DPM concentrations from diesel vehicles and TOG concentrations from gasoline vehicles. The maximum modeled annual concentration for DPM, PM_{2.5}, hourly concentration for diesel exhaust TOG, and annual and hourly concentrations for gasoline exhaust TOG and gasoline non-exhaust TOG onsite is estimated by CAL3QHCR. To estimate cancer risk and noncancer hazard indices, specific chemical concentrations must be calculated. Diesel exhaust, a complex mixture that includes hundreds of individual constituents,¹⁰ is identified by the State of California as a known carcinogen.¹¹ Under California regulatory guidelines, diesel particulate matter is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole.¹² Cal/EPA and other proponents of using the surrogate approach to quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach. A component-based approach involves estimating risks for each of the individual components of a mixture. Critics of the component-based approach believe it will underestimate the risks associated with diesel as a whole mixture because the identity of all chemicals in the mixture may not be known and/or exposure and health effects information for all chemicals identified within the mixture may not be available. Furthermore, Cal/EPA has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated

⁹ Cal/EPA. 2009. Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures. May.

¹⁰ Cal/EPA, OEHHA. 1998a. Findings of the Scientific Review Panel on The Report on Diesel Exhaust, as adopted at the Panel's April 22, 1998, meeting.

¹¹ Cal/EPA. 2011. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. February 14. <http://www.arb.ca.gov/toxics/healthval/contable.pdf>. Accessed July 2011.

¹² Ibid.

components.”¹³ Because a surrogate approach has not been recommended for effects from gasoline fueled equipment at the time of this report, the component-based approach was used to estimate the effects from the gasoline equipment. To speciate TOG, BAAQMD recommended speciation profiles were used, as shown in Appendix Table A.8.

¹³ Cal/EPA. OEHHA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. August.

Appendix Tables

Appendix Table A.1
Vehicle Classes Considered in Emission Estimation
The Commons at Gateway
Pleasanton, California

Vehicle Class ¹	Fuel	Considered Heavy Duty Truck ²	Included in Emission Estimation					
			PM _{2.5}		DPM ⁴	TOG		
			Exhaust ³	Brake and Tire Wear ³		Diesel Exhaust ⁴	Gasoline Exhaust ⁵	Gasoline Evaporative ⁵
All Other Buses	Diesel	--	X	X	X	X	--	--
LDA	Gasoline	--	X	X	--	--	X	X
LDA	Diesel	--	X	X	X	X	--	--
LDT1	Gasoline	--	X	X	--	--	X	X
LDT1	Diesel	--	X	X	X	X	--	--
LDT2	Gasoline	--	X	X	--	--	X	X
LDT2	Diesel	--	X	X	X	X	--	--
LHD1	Gasoline	X	X	X	--	--	X	X
LHD1	Diesel	X	X	X	X	X	--	--
LHD2	Gasoline	X	X	X	--	--	X	X
LHD2	Diesel	X	X	X	X	X	--	--
MCY	Gasoline	--	X	X	--	--	X	X
MDV	Gasoline	--	X	X	--	--	X	X
MDV	Diesel	--	X	X	X	X	--	--
MH	Gasoline	--	X	X	--	--	X	X
MH	Diesel	--	X	X	X	X	--	--
Motor Coach	Diesel	--	X	X	X	X	--	--
OBUS	Gasoline	--	X	X	--	--	X	X
PTO	Diesel	X	X	X	X	X	--	--
SBUS	Gasoline	--	X	X	--	--	X	X
SBUS	Diesel	--	X	X	X	X	--	--
T6 Ag	Diesel	X	X	X	X	X	--	--
T6 CAIRP heavy	Diesel	X	X	X	X	X	--	--
T6 CAIRP small	Diesel	X	X	X	X	X	--	--
T6 instate construction heavy	Diesel	X	X	X	X	X	--	--
T6 instate construction small	Diesel	X	X	X	X	X	--	--
T6 instate heavy	Diesel	X	X	X	X	X	--	--
T6 instate small	Diesel	X	X	X	X	X	--	--
T6 OOS heavy	Diesel	X	X	X	X	X	--	--
T6 OOS small	Diesel	X	X	X	X	X	--	--
T6 Public	Diesel	X	X	X	X	X	--	--
T6 utility	Diesel	X	X	X	X	X	--	--
T6TS	Gasoline	X	X	X	--	--	X	X
T7 Ag	Diesel	X	X	X	X	X	--	--
T7 CAIRP	Diesel	X	X	X	X	X	--	--
T7 CAIRP construction	Diesel	X	X	X	X	X	--	--
T7 NNOOS	Diesel	X	X	X	X	X	--	--
T7 NOOS	Diesel	X	X	X	X	X	--	--
T7 other port	Diesel	X	X	X	X	X	--	--
T7 POAK	Diesel	X	X	X	X	X	--	--
T7 POLA	Diesel	X	X	X	X	X	--	--
T7 Public	Diesel	X	X	X	X	X	--	--
T7 Single	Diesel	X	X	X	X	X	--	--
T7 single construction	Diesel	X	X	X	X	X	--	--
T7 SWCV	Diesel	X	X	X	X	X	--	--
T7 tractor	Diesel	X	X	X	X	X	--	--
T7 tractor construction	Diesel	X	X	X	X	X	--	--
T7 utility	Diesel	X	X	X	X	X	--	--
T7IS	Gasoline	X	X	X	--	--	X	X
UBUS	Gasoline	--	X	X	--	--	X	X
UBUS	Diesel	--	X	X	X	X	--	--

Notes:

1. All vehicle classes reported in the SG Module of EMFAC2011.
2. The EMFAC default fleet mix of Heavy Duty Trucks are adjusted for the actual truck percentages on the road.
3. All vehicles considered in PM_{2.5} emissions.
4. Only diesel fueled vehicles are considered when estimating DPM and TOG from diesel emissions.
5. Only gasoline fueled vehicles are considered when estimating TOG from gasoline emissions.

Abbreviations:

DPM - Diesel Particulate Matter
PM - Particulate Matter
TOG - Total Organic Gases

**Appendix Table A.2
ARB Truck Temporal Profile
The Commons at Gateway
Pleasanton, California**

EMFAC Vehicle Category ¹	Fuel Type	Hour																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
All Other Buses	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
Motor Coach	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
PTO	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
SBUS	Diesel	0	0	0	0	0	0	16.66%	16.67%	16.67%	0	0	0	0	0	0	16.66%	16.67%	16.67%	0	0	0	0	0	0
T6 Ag	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 CAIRP heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 CAIRP small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate construction heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate construction small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 instate small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 OOS heavy	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 OOS small	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 Public	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T6 utility	Diesel	3.77%	2.52%	0	0	0	2.3%	5.48%	2.2%	7.25%	10.22%	6.91%	8.71%	8.15%	7.48%	7.15%	4.28%	7.76%	2.32%	0.69%	0.08%	2.58%	6.35%	3.8%	0
T7 Ag	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 CAIRP	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 CAIRP construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 NNOOS	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 NOOS	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 other port	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 POAK	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 POLA	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 Public	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 Single	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 single construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 SWCV	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 tractor	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 tractor construction	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%
T7 utility	Diesel	4.000%	1.370%	2.950%	7.069%	3.690%	5.579%	7.969%	6.379%	5.359%	6.269%	6.499%	6.299%	5.639%	5.789%	4.250%	2.610%	3.790%	1.670%	2.640%	1.150%	3.330%	3.130%	1.240%	1.330%

Notes:

1. Percentage of daily VMT for each hour of the day for each vehicle class in HD Module of EMFAC2011, as provided by ARB.

Abbreviations:

ARB - California Air Resources Board
VMT - vehicle miles travelled

Reference:

Personal Communication between Jennie Louie (ENVIRON) and Kathy Jaw (ARB). October 13, 2011.

**Appendix Table A.3
Hourly Emission Factors
The Commons at Gateway
Pleasanton, California**

Hour	Highway						Surface Streets					
	PM _{2.5}		DPM	TOG			PM _{2.5}		DPM	TOG		
	Exhaust	Brake and Tire Ware		Diesel Exhaust	Gasoline Exhaust	Gasoline Evaporative	Exhaust	Brake and Tire Ware		Diesel Exhaust	Gasoline Exhaust	Gasoline Evaporative
g/mile												
1	0.0188	0.0229	0.1062	0.3039	0.0909	0.0865	0.0136	0.0217	0.1082	0.3068	0.0903	0.0859
2	0.0264	0.0269	0.0919	0.2913	0.0938	0.0883	0.0199	0.0251	0.0949	0.2962	0.0924	0.0870
3	0.0292	0.0259	0.0877	0.3031	0.1362	0.1264	0.0236	0.0249	0.0896	0.3065	0.1223	0.1135
4	0.0633	0.0306	0.1140	0.3282	0.1025	0.0955	0.0524	0.0294	0.1152	0.3307	0.0984	0.0916
5	0.0262	0.0244	0.1077	0.3239	0.0989	0.0933	0.0195	0.0234	0.1105	0.3289	0.0955	0.0902
6	0.0238	0.0236	0.1199	0.3244	0.1034	0.0950	0.0174	0.0225	0.1223	0.3286	0.0992	0.0914
7	0.0111	0.0206	0.1207	0.3182	0.0909	0.0860	0.0082	0.0200	0.1232	0.3215	0.0904	0.0856
8	0.0058	0.0193	0.1198	0.3234	0.0901	0.0859	0.0047	0.0191	0.1236	0.3271	0.0898	0.0855
9	0.0067	0.0197	0.1138	0.3052	0.0951	0.0892	0.0053	0.0193	0.1174	0.3095	0.0933	0.0877
10	0.0107	0.0210	0.1155	0.3050	0.0964	0.0902	0.0081	0.0203	0.1189	0.3104	0.0941	0.0883
11	0.0096	0.0207	0.1159	0.3130	0.0946	0.0894	0.0073	0.0201	0.1200	0.3195	0.0927	0.0878
12	0.0085	0.0204	0.1168	0.3098	0.0937	0.0883	0.0066	0.0199	0.1209	0.3162	0.0923	0.0871
13	0.0078	0.0202	0.1202	0.3130	0.0916	0.0871	0.0061	0.0198	0.1249	0.3207	0.0907	0.0863
14	0.0079	0.0203	0.1195	0.3148	0.0928	0.0880	0.0062	0.0199	0.1244	0.3228	0.0915	0.0868
15	0.0064	0.0198	0.1234	0.3152	0.0915	0.0869	0.0052	0.0196	0.1289	0.3244	0.0907	0.0862
16	0.0051	0.0195	0.1238	0.3196	0.0926	0.0876	0.0043	0.0193	0.1305	0.3301	0.0914	0.0866
17	0.0061	0.0198	0.1236	0.3128	0.0949	0.0899	0.0050	0.0195	0.1292	0.3223	0.0929	0.0881
18	0.0043	0.0192	0.1144	0.3175	0.0928	0.0876	0.0038	0.0191	0.1230	0.3286	0.0916	0.0866
19	0.0050	0.0195	0.1177	0.3318	0.0912	0.0865	0.0043	0.0193	0.1259	0.3426	0.0905	0.0859
20	0.0041	0.0192	0.1297	0.3487	0.0915	0.0866	0.0037	0.0192	0.1389	0.3603	0.0907	0.0860
21	0.0076	0.0200	0.1142	0.3158	0.0901	0.0859	0.0059	0.0197	0.1188	0.3224	0.0897	0.0855
22	0.0086	0.0204	0.1183	0.3042	0.0898	0.0857	0.0066	0.0199	0.1222	0.3104	0.0895	0.0854
23	0.0072	0.0204	0.1130	0.3025	0.0906	0.0863	0.0058	0.0199	0.1191	0.3125	0.0900	0.0858
24	0.0058	0.0198	0.1195	0.3408	0.0918	0.0874	0.0049	0.0197	0.1280	0.3532	0.0908	0.0865

Notes:

1. Hourly emission factors estimated using EMFAC2011 as described in the report. Highway emission factors assume 6.5% of vehicles are trucks, while surface street emission factors assume 4.09% of vehicles are trucks.

Abbreviations:

DPM - Diesel Particulate Matter
g - gram
PM - Particulate Matter
TOG - Total Organic Gases

**Appendix Table A.4
Traffic Volume Scaling
The Commons at Gateway
Pleasanton, California**

Year	EMFAC Total County VMT ¹
2010	39,510,078
2011	39,885,875
2015	41,393,129

Roadway ²	ADT ³	Year of Traffic Data ⁴	Increase in Traffic in 2015 ⁵	ADT Modeled ⁶
I-680	120,000	2010	104.8%	125,719
I-680 - Northbound Offramp	3,800	2010	104.8%	3,981
I-680 - Northbound Onramp	11,100	2010	104.8%	11,629
I-680 - Southbound Offramp	11,400	2010	104.8%	11,943
I-680 - Southbound Onramp	4,200	2010	104.8%	4,400
Bernal Avenue - West of I-680	20,700	2011	103.8%	21,482
Bernal Avenue - East of I-680	26,500	2011	103.8%	27,501
Valley Avenue - North of Bernal Avenue	4,700	2011	103.8%	4,878
Valley Avenue - South of Bernal Avenue	12,800	2011	103.8%	13,284

Notes:

1. Daily VMT estimated by SG Module of EMFAC2011.
2. All roadways within 1,000 feet of the Project.
3. ADT from highway and ramps obtained from Caltrans and ADT from surface streets obtained from the City of Pleasanton.
4. Year of Traffic Data is the year for which the traffic data is estimated.
5. Increase in Traffic in 2015 is the ratio between 2015 VMT and VMT from the year of traffic data as shown above.
6. Modeled ADT is the 2015 ADT, calculated using the following formula:

$$[\text{Modeled ADT}] = [\text{ADT in year of traffic data}] \times [\text{Increase in traffic in 2015}]$$

Abbreviations:

I-680 - Interstate 680
 ADT - average daily traffic
 VMT - vehicle miles travelled

References:

California Department of Transportation's Traffic Data Branch. 2011. Available online: <http://traffic-counts.dot.ca.gov/>
 City of Pleasanton. Traffic Counts Map. Available online: <http://www.ci.pleasanton.ca.us/services/traffic/traffic-counts-map.html>

**Appendix Table A.5
Temporal Profile of Traffic
The Commons at Gateway
Pleasanton, California**

Hour	Highway ¹			Surface Streets ¹		
	Percent of Total Traffic ²	Percent of Hourly Traffic ³		Percent of Total Traffic ²	Percent of Hourly Traffic ³	
		Diesel Fueled	Gasoline Fueled		Diesel Fueled	Gasoline Fueled
1	1.20%	17.6%	82.4%	1.15%	11.8%	88.2%
2	0.46%	29.6%	70.4%	0.42%	21.0%	79.0%
3	0.51%	34.3%	65.7%	0.42%	26.7%	73.3%
4	0.37%	59.6%	40.4%	0.29%	48.4%	51.6%
5	0.56%	24.8%	75.2%	0.51%	17.5%	82.5%
6	0.98%	20.1%	79.9%	0.91%	13.9%	86.1%
7	3.82%	8.3%	91.7%	3.79%	5.5%	94.5%
8	7.70%	3.5%	96.5%	7.79%	2.4%	97.6%
9	7.08%	4.6%	95.4%	7.08%	3.1%	96.9%
10	4.43%	8.3%	91.7%	4.35%	5.6%	94.4%
11	4.71%	7.2%	92.8%	4.66%	4.9%	95.1%
12	5.89%	6.1%	93.9%	5.87%	4.1%	95.9%
13	6.14%	5.3%	94.7%	6.15%	3.6%	96.4%
14	6.04%	5.4%	94.6%	6.03%	3.7%	96.3%
15	6.95%	3.9%	96.1%	7.01%	2.7%	97.3%
16	7.05%	2.7%	97.3%	7.13%	2.0%	98.0%
17	7.36%	3.6%	96.4%	7.37%	2.5%	97.5%
18	8.06%	2.2%	97.8%	8.17%	1.6%	98.4%
19	5.64%	2.8%	97.2%	5.72%	2.0%	98.0%
20	4.21%	1.8%	98.2%	4.29%	1.4%	98.6%
21	3.25%	5.4%	94.6%	3.27%	3.6%	96.4%
22	3.28%	6.2%	93.8%	3.29%	4.1%	95.9%
23	2.44%	5.1%	94.9%	2.46%	3.5%	96.5%
24	1.87%	3.5%	96.5%	1.88%	2.5%	97.5%

Notes:

1. Highway values assume 6.5% of vehicles are trucks (EMFAC2011), while surface street values assume 4.09% (BAAQMD 2012) of vehicles are trucks.
2. Percent of total traffic used to convert ADT to hourly traffic volumes. The percent is calculated using VMT reported in EMFAC2011 and provided by ARB as described in the report.
3. Percent of hourly traffic is used to separate total traffic into diesel and gasoline fueled vehicles. Ratios of VMT are also used to calculate this percent.

Abbreviations:

ADT - average daily traffic
 ARB - California Air Resources Board
 VMT - vehicle miles travelled

Sources:

BAAQMD. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May.

**Appendix Table A.6
Age Sensitivity Factors
The Commons at Gateway
Pleasanton, California**

Year	ASF	Period	Weighting
2015	10	1	0.14
2016	10	1	0.14
2017	4.75	1	0.068
2018	3	1	0.043
2019	3	1	0.043
2020	3	1	0.043
2021	3	1	0.043
2022	3	1	0.043
2023	3	1	0.043
2024	3	1	0.043
2025	3	1	0.043
2026	3	1	0.043
2027	3	1	0.043
2028	3	1	0.043
2029	3	1	0.043
2030	3	1	0.043
2031	1.5	1	0.021
2032	1	1	0.014
2033	1	1	0.014
2034	1	1	0.014
2035-2084	1	50.25	0.72

Notes:

1. All years between first year of occupancy and the last year for which EMFAC2011 reports information.
2. ASF profile with time, as recommended by BAAQMD. ASFs assume an infant was in the third trimester of pregnancy at first occupancy of the Project. Fraction values take into account the change in ASF in the middle of the year.
3. 2035 information is assumed to represent the remaining years into the 70 year exposure.
4. Weighting is the product of the ASF and period and represents the weighting of each year's emission factor.

Abbreviations:

ASF - Age Sensitivity Factor
BAAQMD - Bay Area Air Quality Management District

Reference:

BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

**Appendix Table A.7
Emissions Scaling Factors
The Commons at Gateway
Pleasanton, California**

Pollutant ²		Highway ¹	Surface Streets ¹
DPM		1.064	1.069
TOG	Gasoline Exhaust	0.944	0.951
	Gasoline Evaporative	1.131	1.130

Notes:

1. Highway values assume 6.5% of vehicles are trucks, while surface street values assume 4.09% of vehicles are trucks.
2. Scaling factors for all pollutants considered in cancer risk calculation. These factors were calculated using methodologies described in the report.

Abbreviations:

DPM - Diesel Particulate Matter
TOG - Total Organic Gases

**Appendix Table A.8
Speciation Profiles
The Commons at Gateway
Pleasanton, California**

Chemical	CAS Number	Fraction of TOG		
		Diesel Exhaust ¹	Gasoline Exhaust ²	Gasoline Evaporative ²
1,3-Butadiene	106990	--	0.0055	--
Acetaldehyde	75070	0.15942	0.0028	--
Acrolein	107028	0.01297	0.0013	--
Benzene	71432	0.01045	0.0247	0.0036
Ethylbenzene	100414	--	0.0105	0.0012
Formaldehyde	50000	0.08505	0.0158	--
Hexane	110543	--	0.016	0.0154
Methanol	67561	--	0.0012	--
Methyl Ethyl Ketone	78933	--	0.0002	--
Naphthalene	91203	--	0.0005	--
Propylene	115071	--	0.0306	--
Styrene	100425	--	0.0012	--
Toluene	108883	--	0.0576	0.017
Xylenes	10605	--	0.048	0.00578

Notes:

1. All fractions are from USEPA Speciation Profile 4674 for Medium Duty Trucks.
2. All fractions are provided by BAAQMD (BAAQMD 2012).

Abbreviation:

BAAQMD - Bay Area Air Quality Management District
 TOG - total organic gas
 USEPA - United States Environmental Protection Agency

Reference:

BAAQMD. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. May.

Appendix B

Filtration Technical Appendix

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Appendix Table B.1	Air Filtration Parameters
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Acronyms and Abbreviations

ACH	Air Changes Per Hour
ARB	California Air Resources Board
ASF	Age Sensitivity Factor
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
BAAQMD	Bay Area Air Quality Management District
DPM	Diesel Particulate Matter
ENVIRON	ENVIRON International Corporation
HRA	Health Risk Assessment
HVAC	Heating, Ventilation And Air-Conditioning
MERV	Minimum Efficiency Reporting Value
OEHHA	Office of Environmental Health Hazard Assessment, State of California
PM _{2.5}	Fine Particulate Matter Less than 2.5 Micrometer in Diameter
USEPA	United States Environmental Protection Agency

B.1. Introduction

As discussed in the body of this report, ENVIRON International Corporation (ENVIRON) prepared a Health Risk Assessment (HRA) for Pleasanton Gateway LLC for The Commons at Gateway Project in Pleasanton, California (“Project”). As part of the HRA, ENVIRON quantified the effect of filtration on the mechanical system of the buildings as mitigation. This appendix discusses the methodology for the quantification of the effect of the filtration.

B.2. Background

Consistent with Bay Area Air Quality Management District (BAAQMD) guidance, the HRA for roadways conservatively quantifies the lifetime excess cancer risk for residents assuming a 70-year *outdoor* exposure. In other words, the resident is assumed to breathe outdoor air at the residence for 70 years, 350 days per year, 24 hours per day.¹ However, when home, residents spend a majority of their time indoors.² Typically, the majority of the estimated excess lifetime cancer risk from living near roadways is caused by diesel particulate matter (DPM), which is considered a carcinogen by the state of California.³ Additionally, fine particulate matter Less than 2.5 Micrometer in Diameter (PM_{2.5}), has been shown to cause health problems and is also regulated through state and federal ambient air quality standards. Filtration on the residence’s heating, ventilation and air-conditioning (HVAC) system can help reduce the concentration of DPM and PM_{2.5} indoors; reducing a resident’s exposure to them and thereby reduce the health impacts from living near roadways.

Regulations guide the design of new residences. For example, those built in California must comply with the California Green Buildings Standards Code, also known as CalGreen,⁴ along with other sections of California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, also known as Title 24.⁵ Residences are currently built to reduce the leakage of outside air in through cracks and holes in the building envelope, in order to conserve energy required for heating and cooling. However, regulations also mandate that fresh air be brought into residences to maintain healthy indoor air quality.⁶ Therefore, fresh air is typically brought in through a mechanical ventilation system. Filtration of air flowing through the HVAC system can help reduce concentrations of particulates (such as DPM and PM_{2.5}) indoors. The estimated reduction of particulates that can be achieved by a filtration system is influenced by a variety of factors, which requires quantifying unfiltered air entering the building through windows or cracks in the building envelope, evaluating occupant behavior, such as window operations, and understanding the forced ventilation and recirculation flow rates.

¹ California Environmental Protection Agency and California Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program Risk Assessment Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. 2003.

² United States Environmental Protection Agency. *Exposure Factors Handbook 2011 Edition (Final)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/052F, 2011.

³ California Air Resources Board. *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*. 2011.

⁴ California Building Standards Commission. *2010 California Green Building Standards Code: CalGreen*. 2010. California Code of Federal Regulations, Title 24, Part 11.

⁵ California Energy Commission. *2008 Building Energy Efficiency Standards*. 2008. CEC-400-2008-001-CMF.

⁶ ASHRAE. *ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*. Atlanta, GA: ASHRAE, 2010. ISSN 1041-2336.

This appendix describes the method used to quantitatively assess the reduction of particulate concentration indoors due to filtration on the air intake and recirculation systems and the conservative assumptions used when specific information was unknown.

B.3. General Information

In a simple model, indoor air concentrations could be calculated by applying the filter efficiency to the outdoor particulate concentration. However, this method assumes that all air that enters the building will be filtered. Unfiltered air flows into a building through open windows and doors and through cracks and openings in walls. Also, to accurately represent a resident's exposure to particulates, their exposure during time spent outdoors should be considered. A resident's exposure concentration combines the indoor and outdoor concentrations with assumptions about time spent indoors versus outdoors. To more accurately estimate health impacts indoors, the air flow in and out of a building and window operations, in addition to the filtration of particulates, should be taken into account. For particulates that are not removed via filtration, indoor concentrations can be assumed equal to outdoor concentrations. The approach described here combines hourly outdoor concentrations of particulates estimated through air dispersion modeling, filtration efficiencies, HVAC system characteristics, building characteristics, occupancy behavior, and box model methodologies.

There is a large body of literature published related to filtration of pollutants from air entering the indoor environment from the outdoors. Also, many standards relate to designing a space to reduce the concentration of pollutants indoors. For example, the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) sets standards with supporting documentation for filtration efficiencies and other HVAC design parameters. These include ASHRAE 52.2-2007,⁷ which defines classes of filters and their corresponding filtration limit, and ASHRAE 62.2-2010,⁸ which defines the necessary ventilation flow rates into a building. Other articles⁹ assert that a box model that accounts for operable windows closely represents the actual concentration flows in an indoor environment. Other literature discusses the mathematical theory used to estimate unsteady state concentrations using box models.¹⁰ There are studies which suggest average time windows are open in residences¹¹ and standards for temperature control.¹² This approach combines information from the literature to estimate exposure concentrations as a function of hourly outdoor concentration. The outdoor concentration of particulates from roadways was estimated using CAL3QHCR, as described in Appendix A.

⁷ ASHRAE. *ANSI/ASHRAE Standard 52.2-2007 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta. 2008. ISSN 1041-2336.

⁸ ASHRAE. *ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*. Atlanta, GA: ASHRAE, 2010. ISSN 1041-2336.

⁹ Hayes, S. R. *Use of an Indoor Air Quality Model to Estimate Indoor Ozone Levels*. AWMA, 1991, Vols. 41:161-170. ISSN 1047-3289.

¹⁰ Nazaroff, William W and Alvarez-Cohen, Lisa. *Environmental Engineering Science*. New York: Jogn Wiley & Sons, 2001. ISBN 0-471-1-14494-0.

¹¹ Price, Phillip P. and Sherman, Max and Lee, Robert H. and Piazza, Thomas. *Study of Ventilation Practices, and Household Characteristics in New California Home*. California Energy Commission, PIER Program. CEC-500-2007-033. Final Report ARB Contract 03-326.

¹² Western Regional Climate Center. Period of Record General Climate Summary - Heating Degree Days. Available online at: <http://www.wrcc.dri.edu/index.html>

B.4. Technical Approach

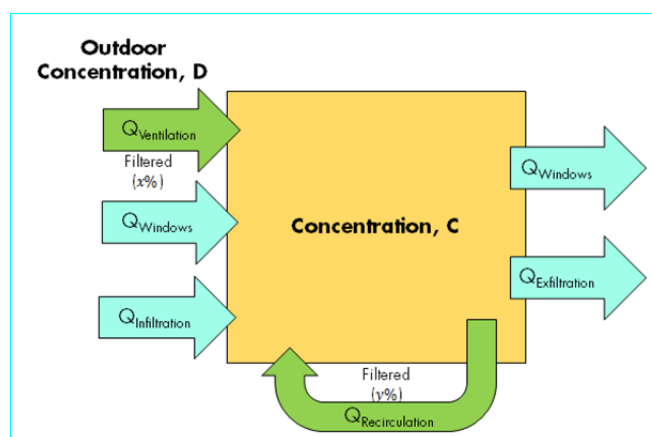
B.4.1. Box Model

The approach used in this analysis to estimate exposure concentrations incorporates an transient (unsteady state) box model. A box model is a steady state or transient mathematical model that can be used to predict concentrations in a specific space. The air flow through a residential unit is a complex system, but this approach assumes instantaneous complete mixing for each hour in order to yield a tractable model and predict reasonable airborne concentrations within the space.¹³

The space considered in this analysis is the indoor environment of the residential unit. While an indoor environment often has different rooms with air that will likely not be completely mixed between the rooms, inhabitants will spend time in different rooms and in different locations in those rooms. Therefore, assuming indoor air is completely mixed allows for reasonable predictions of the overall average concentrations of contaminants to which an inhabitant would be exposed.

The flows into the building that are considered in this model include flows through windows, forced intake of outdoor air through mechanical ventilation, and infiltration through cracks and openings. To balance the system, the flows out of the building must also be considered, which are flows through windows and cracks. Forced air recirculation is also considered. The outdoor air intake and forced recirculation of the mechanical ventilation system is assumed to be filtered, while all other flows are assumed to be unfiltered. Figure 1 shows the air flows through the residence that are considered in the model. Reactions or deposition producing or removing the particulate indoors are not considered in this analysis.

Figure 1. Air Flows Considered in Model.



In this box model, the flows in and out of the space are balanced to avoid assuming the buildup of or reduction in air pressure. Mass balance principles are used to form a first order differential equation to estimate a rate of change of the particulate concentration. This differential equation

¹³ Hayes, S. R. *Use of an Indoor Air Quality Model to Estimate Indoor Ozone Levels*. AWMA, 1991, Vols. 41:161-170. ISSN 1047-3289.

is solved to produce an equation of concentration with time based on the flows of air through the space.

A mass balance with time of this system is represented by:

$$\frac{dCV}{dt} = Q_{in}C_{in} - Q_{out}C \quad (\text{Eq. 1})$$

Where:

Q_{in}	= Flow of air into the space [volume/time]
Q_{out}	= Flow of air out of the space [volume/time]
C_{in}	= Concentration of particulate in the air entering the space [mass/volume]
C	= Concentration of particulates in the space [mass/volume]
V	= Volume of space [volume]

The mass balance of the air flows through the area in question yields the following:

$$\frac{dCV}{dt} = C_{in}(Q_{ventilation}(1-x) + Q_{Windows} + Q_{Infiltration}) - C(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)) \quad (\text{Eq. 2})$$

Where:

C	= Indoor concentration of pollutant [mass/volume]
$Q_{Windows}$	= Flow rate through open windows [volume/time]
$Q_{Infiltration}$	= Flow rate through infiltration [volume/time]
$Q_{Exfiltration}$	= Flow rate through exfiltration [volume/time]
$Q_{Recirculation}$	= Flow rate through recirculation [volume/time]
$Q_{Ventilation}$	= Flow rate through forced ventilation of outdoor air [volume/time]
t	= Time [time]
V	= Volume of unit [volume]
x	= Fractional removal of particulates through filter on ventilation
y	= Fractional removal of particulates through filter on recirculation

The solution to differential equation for the concentration C at time t is:

$$C(t) = C_o \exp \left[- \frac{(Q_{Windows} + Q_{Infiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y))}{V} * (t - t_o) \right] + \frac{C_{in}(Q_{ventilation}(1-x) + Q_{Windows} + Q_{Infiltration})}{(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y))} * (1 - \exp[-(Q_{Windows} + Q_{Exfiltration} + Q_{Recirculation} - Q_{Recirculation}(1-y)) / V * (t - t_o)]) \quad (\text{Eq. 3})$$

Where:

C_o	= Concentration of particulates at t_0 [mass/volume]
t	= Time elapsed since t_0 [time]
t_0	= Initial time [time]

B.4.2. Hourly Calculations

To account for the hourly fluctuations of each parameter when calculating yearly average concentrations, the concentration equation is solved for every hour of the year, with the initial indoor concentration for each hour being equal to that at the end of the previous hour. The outdoor concentration of a pollutant varies with time based on meteorological conditions and emission rates. Flows through the residential unit can also change based on meteorological conditions or occupancy behavior, such as window openings. This hourly calculation allows for the pairing of the changes in different parameters with time to estimate a more accurate annual average concentration.

This approach also allows for an assumption that residents will be outside for a certain number of hours of the day, and hence would be exposed to outdoor concentrations during this time. In addition, this approach allows for the consideration of unfiltered particulates. The time spent outside by age group was obtained from United States Environmental Protection Agency (USEPA's) Exposure Factor Handbook¹⁴ and weighted by years in each age bin and the age sensitivity factor. This equates to approximately 3 hours outside per day, which is conservative as all this time will not be spent at the proposed site. These three hours were chosen at random between 8AM and 8PM.

B.4.3. Flow Assumptions

The flow rate through windows can vary based on whether windows are open and the hourly wind characteristics. The approach described in this study assumes residents will open windows when temperature falls within a specific range, as shown in Appendix Table B.1. The flow of air through open windows in a building varies greatly with wind speed, direction of windows with respect to the wind, and the size of the windows.¹⁵ Because the information about window design is not always known, assumptions were made for an average flow rate through the windows. For this analysis, flows through open windows was conservatively assumed to be 0.5 air changes per hour (ACH), which is greater than the 50th percentile flow through windows for buildings in the west region from USEPA's Exposure Handbook.¹⁶

The flow rates of recirculation and ventilation could vary based on how the HVAC system is designed and operated. For this analysis, the flow rate of ventilation is calculated assuming compliance with Section 4.1 of the ASHRAE 62.2 Standard, as described in Appendix Table B.1. Air is assumed to flow through the recirculation system and filter when the resident is heating or cooling the unit, which is assumed to be when the temperature falls within a specific range, as shown in Appendix Table B.1. The recirculation flow rate was assumed based on likely recirculation rates provided in conversation with HVAC engineers.

The flow rate through infiltration can be determined using knowledge of air leakage areas of the building,¹⁷ energy efficiency standards,¹⁸ or tests of building infiltration. Because the buildings

¹⁴ USEPA. 2011. Exposure Factors Handbook. EPA/600/R-09/052F. September.

¹⁵ ASHRAE. 1997 *ASHRAE Handbook Fundamentals*. Atlanta, GA: ASHRAE, 1997.

¹⁶ USEPA. 2011. Exposure Factors Handbook. EPA/600/R-09/052F. September.

¹⁷ ASHRAE. 1997 *ASHRAE Handbook Fundamentals*. Atlanta, GA: ASHRAE, 1997.

¹⁸ California Energy Commission. 2008 *Building Energy Efficiency Standards*. 2008. CEC-400-2008-001-CMF.

are not constructed yet, the air permeability requirement mentioned in the ASHRAE 62.1 User's Guide¹⁹ was assumed to be characteristic of the buildings, as described in Appendix Table B.1.

The filtration efficiency is dependent on the type of filtration technology used. To filter particulates, the Minimum Efficiency Reporting Value (MERV) rating can be used. The MERV rating is a scale that describes the effectiveness of air filters. The MERV rating ranges from 1 to 16, with a higher rating corresponding to a smaller minimum particle size captured by the filter.²⁰ For this analysis, MERV 13 filters were assumed to be installed on the recirculation and ventilation flows into all of the building.

It is important to note that the required filtration efficiency necessary to reduce impacts will depend on the final building design (e.g. ventilation and recirculation system) and individual residence design (e.g. size, location within the building). The air filtration analysis presented here was based on preliminary information provided by Pleasanton Gateway LLC on location and dimensions of residential buildings and ventilation and recirculation rates consistent with ASHRAE 62.2-2010²¹ which is required under the 2010 California Green Building Standards Code (also known as CALGreen).²²

B.5. Summary

The annual average filtered particulate concentration over all hours of the year would be used to estimate excess lifetime cancer risks and compared to thresholds. This risk takes into account residents' time outside and hourly changes in meteorology, window openings, and heating and cooling recirculation.

¹⁹ ASHRAE. 2011 62.1 User's Manual. ANSI/AHSRAE Standard 62.1-2010. *Ventilation for Acceptable Indoor Air Quality*.

²⁰ ASHRAE. *ANSI/ASHRAE Standard 52.2-2007 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. Atlanta. 2008. ISSN 1041-2336.

²¹ American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE). 2010. ANSI/ASHRAE Standard 62.2-2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. Atlanta, GA: ISSN 1041-2336.

²² California Building Standards Commission (CBSC). 2010. 2010 California Green Building Standards Code (CALGreen). California Code of Regulations, Title 24, Part 11. June.

Appendix Tables

**Appendix Table B.1
Air Filtration Parameters
The Commons at Gateway
Pleasanton, California**

Mechanical System Considerations:

Flow	Air Origin	Percent of DPM Filtered ⁵	Flow Rate m ³ /hr
Ventilation ¹ , Q _{ventilation}	Outdoors	90%	59
Windows ² , Q _{windows}	Outdoors	--	153
Infiltration ³ , Q _{infiltration}	Outdoors	--	8
Recirculation ⁴ , Q _{recirculation}	Indoors	90%	1020

Site Information:

Parameter	Value	Units
Height of Ceiling ⁶	9	ft
Time Outdoors	3	hrs/day
Minimum Temperature Windows Open ⁸	65	F
Minimum Temperature Windows Open ⁸	80	F
High Temperature for Heating ⁹	55	F
Low Temperature for AC ⁹	80	F

Ventilation Assumptions:

Parameter	Value	Units
Vented Flow Rate	80	cfm
Home size	1200	ft ²
Bedrooms	2	
Time Venting	26	min/hr
Flow Rate of Ventilation	59	m ³ /hour

Outdoor Time:

Age bin	Time outdoors	ASF	Time
	minutes/day		years
Birth to <1 month	0	10	0.08
1 to <3 months	8	10	0.17
3 to <6 months	26	10	0.25
6 to <12 months	139	10	0.5
1 to <2 years	36	10	1
2 to <3 years	76	3	1
3 to <6 years	107	3	3
6 to <11 years	132	3	5
11 to <16 years	100	3	5
16 to <21 years	102	1	5
18 to <65 years	281	1	47
>= 65 years	298	1	5
Time weighted average		177	minutes/day
Approximate Average Daily Outdoors Time		3	hours/day

Notes:

1. Ventilation flow rate found using Ventilation Assumptions. The flow rate of ventilation is calculated assuming compliance with ASHRAE 62.2 Standard. Section 4.1 of ASHRAE 62.2 states that the flow rate of outdoor air at each hour must be no less than the rate specified in the equation below. The flow rate per minute is fixed, so the ventilation only operates for part of the hour to achieve compliance with this standard, as shown in the Ventilation Assumptions. The flow rate per minute is based on the design of the ducts.

$$Q_{\text{ventilation}} = 0.01A_{\text{floor}} + 7.5(N_{\text{br}} + 1)$$

Where:

A_{floor} = floor area, ft²

N_{br} = number of bedrooms

2. Flow rate through windows is found assuming an air exchange rate through windows of 0.5 air changes per hour, which is greater than the 50th percentile air exchange rate for buildings in the west region from EPA's Exposure Handbook.

3. Infiltration rate is based on an infiltration rate of 0.4 cfm/ft² of occupiable area, as mentioned in ASHRAE 62.1 User's Manual as the permeability of most energy efficiency codes.

4. Recirculation rate assumes the same flow rate per minute as the ventilation flow rate. This calculation assumes recirculation occurs when ventilation does not.

5. Filtration percentages consistent with minimum removal of DPM with a MERV-13 rated filter.

6. Approximate height of residential ceilings.

7. Time spent outdoors calculated by weighing time spent outdoors by age bin found in EPA's Exposure Factors Handbook by the time in that age bin and the age sensitivity factor associated with each age bin as shown in the Outdoor Time section. The hours the resident spends outside each day is assigned randomly between 8AM and 8PM each day. During these hours, the resident is assumed to be exposed to concentrations of air toxics predicted for the courtyard area of the Project.

8. Residents are assumed to open their windows whenever the outdoor temperature is between the minimum and maximum temperature shown here.

Appendix C

Stationary Source Inquiry Data

Appendix C.1

Bernal Corners/Chevron Gas GDF Information Provided by BAAQMD

MEMO
3/27/03

TO : MR.MADHAV PATIL, TOXICS

FROM : MR.HARI S. DOSS VIA MR.BRIAN BATEMAN, MANAGER, AIR TOXICS SECTION

SUBJECT: Risk screening for BERNAL CORNERS GDF; GDF# 10915;Application# 7133;

BACKGROUND:

The permit application is for an increase in throughput. The operation results in the emission of Benzene. Risk screen was performed using ISCST-3 to determine the maximum ground level concentration with emissions based on 1 million gallon per year throughput. The Unloading and Breathing losses were analyzed as point sources and Refueling and Spillage losses were analyzed as volume source with release heights of 1 meter and 0 meters respectively. Pleasanton met data is utilized to in the model

EMISSION DATA:

The following emission rate for 1 million gallon of reformulated gasoline is used to determine the maximally exposed receptor.

BALANCED SYSTEM WITH 95 % CONTROL BENZENE EMISSIONS:

UNLOADING LOSS:	=	3.63 E-6 GMS/SEC
BREATHING LOSS:	=	1.08 E-6 GMS/SEC

POINT SOURCE TOTAL =		4.71 E-6 GMS/SEC

REFUELING LOSS:	=	3.21 E-5 GMS/SEC
SPILLAGE LOSS:	=	6.05 E-5 GMS/SEC

CONCLUSION:

The increased risk to the maximally exposed Residential receptor is 1.8 in a million for 1 million gallon per year throughput Thus in accordance with the Toxic Section Risk Management Policy the screen passes for 1 million gallon throughput. The throughput corresponding to the passing risk of 10 in a million is calculated and presented below.

ALLOWABLE THROUGHPUT:

Allowable throughput of reformulated gasoline is:
5.711 gallons per year

↑
MM-gal/yr.

Appendix C.2

Safeway GDF Information Provided by BAAQMD

December 11, 2012

LHB & Associates, Ltd.
867 Pacific Street, Ste. 120
San Luis Obispo, CA 93401

For Facility ID: 200004
Safeway Fuel Center #2856
6782 Bernal Avenue
Pleasanton, CA 94566

Attention: JR (Robert) Beard

Authority to Construct for Permit Application No. 401137, Facility No. 200004

ALAMEDA COUNTY
Tom Bates
Scott Haggerty
Jennifer Hosterman
Nate Miley
(Secretary)

CONTRA COSTA COUNTY
John Gioia
(Chairperson)
David Hudson
Mary Piepho
Mark Ross

MARIN COUNTY
Katie Rice

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
John Avalos
Edwin M. Lee
Eric Mar

SAN MATEO COUNTY
Carole Groom
Carol Klatt

SANTA CLARA COUNTY
Susan Garner
Ash Kalra
(Vice-Chair)
Liz Kniss
Ken Yeager

SOLANO COUNTY
James Sperring

SONOMA COUNTY
Susan Gorin
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Approved Devices This is your Authority to Construct (A/C) the following project:

Build new site with Phase I OPW EVR and Phase II VST with Carbon Canister and Veeder-Root ISD EVR. Install new underground storage tanks as described below. No other modifications are authorized. This A/C will supersede A/C #203845.

The BAAQMD has granted this Authority to Construct for the following Device(s):

S1; GDF; Gasoline Dispensing Operation

Nozzle Information:

Nozzle Product Type:	Quantity
Gasoline – Triple Product	18
Diesel	18

Tank and Vapor Recovery Information:

Tank Volume (Gallons)	Phase I Type	Phase II Type	Material
30,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
12,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
10,000	OPW EVR (VR-102)	VST with Carbon Canister and Veeder Root ISD EVR (VR-204)	Gasoline
8,000	None-Exempt Material	None-Exempt Material	Diesel

**Contact
Information**

If you have any questions, please contact your assigned Permit Engineer:

Mark Tang, Air Quality Permit Technician II

Tel: (415) 749-4905 **Fax:** (415) 749-4949 **Email:** mtang@baaqmd.gov

**Authority to
Construct
Conditions**

1. The Phase I equipment shall be installed in accordance with the applicable California Air Resources Board (CARB) Executive Order: VR-101 (Phil-Tite EVR Phase I systems), VR-102 (OPW EVR Phase I systems), VR-103 (EBW EVR Phase I systems) or VR-104 (CNI EVR Phase I systems).
 2. The VST EVR Phase II Vapor Recovery System with ISD shall be installed, operated, and maintained in accordance with the System Operating Manual approved by CARB.
-

**Start-up
Testing
Requirements**

These are required prior to issuing a Permit to Operate:

The following performance tests shall be successfully conducted at least ten (10) days, but no more than thirty (30) days after start-up. For the purpose of compliance with this Condition, all tests shall be conducted after back-filling, paving, and installation of all required Phase I and Phase II components:

1. **Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.**
2. **One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:**
 1. **Stations equipped with drop tube overflow prevention devices ("flapper valves"): a Drop Tube Overflow Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.**
 2. **All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.**
3. **Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.**
4. **One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:**
5. **Stations equipped with drop tube overflow prevention devices ("flapper valves"): a Drop Tube Overflow Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.**
6. **All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB**

Executive Order. Static Pressure Performance Test using CARB Test Procedure TP-201.3 (3/17/99) in accordance with E.O. VR-203, Ex. 4. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.

- 7. Dynamic Back Pressure Test using CARB Test Procedure TP-201.4 (7/3/02) in accordance with the condition listed in item 1 of the Vapor Collection Section of E.O. VR-204, Exhibit 2. The dynamic back pressure shall not exceed 0.35" WC @ 60 CFH and 0.62" WC @ 80 CFH.**
- 8. Liquid Removal Test using E.O. VR-204, Exhibit 5.**
- 9. Vapor Pressure Sensor Verification Test using E.O. VR-204, Exhibit 8**
- 10. Nozzle Bag Test on all nozzles in accordance with E.O. VR-204, Exhibit 10.**
- 11. Veeder-Root Vapor Polisher Operability Test in accordance with E.O. VR-204, Exhibit 11.**
- 12. Veeder-Root Vapor Polisher Emissions Test in accordance with E.O. VR-204, Exhibit 12.**
- 13. ISD Vapor Flow Meter Operability test in accordance with E.O. VR-204, Ex. 13**

**Operating
Conditions**

These Conditions will be made a part of the Permit to Operate:

1. The amount of fuel dispensed at this source shall not exceed the following limits during any consecutive 12-month period:
 - 13.6 million Gallons of Gasoline - unleaded
2. The owner/operator of the source shall complete source testing per the applicable Executive Order. The owner/operator shall notify BAAQMD Source Test Division and submit source test results.
3. The Phase I OPW EVR shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-102.
4. The Phase II VST with Carbon Canister & ISD EVR shall be installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-204.
5. The applicant shall notify Source Test by email at gdfnotice@baaqmd.gov or by FAX at (510) 758-3087, at least 48 hours prior to any testing required for permitting. Test results for all performance tests shall be submitted in a District-approved format within thirty days of testing. Start-up tests results submitted to the District must include the application number and the GDF number. (For annual test results submitted to the District, enter ""Annual"" in lieu of the application number.) Test results may be submitted by email (gdfresults@baaqmd.gov), FAX (510) 758-

3087) or mail (BAAQMD Source Test Section, Attention Hiroshi Doi, 939 Ellis Street, San Francisco CA 94109).

6. The owner/operator shall conduct and pass the following tests at the indicated intervals:
 - A Static Pressure Performance Test, in accordance with CARB procedure TP-201.3 or the applicable equivalent District test procedure (ST-30) at least once in each 12-month period. If the tank size is 500 gallons or less, the test shall be performed on an empty tank.
 - Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.3 at least once in each 36-month period.
 - One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:
 - i. Stations equipped with drop tube overflow prevention devices ("flapper valves"): a Drop Tube Overflow Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.
 - ii. All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.

7. The VST EVR Phase II system with the Veeder-Root Vapor Polisher and ISD shall be capable of demonstrating on-going compliance with the vapor integrity requirements of CARB Executive Order E.O. VR-204. The owner or operator shall conduct and pass the following tests at least once in each consecutive 12-month period following successful completion of start-up testing. Tests shall be conducted and evaluated using the below referenced test methods and standards:
 - Dynamic Back Pressure Test - TP-201.4 (7/3/02) in accordance with the condition listed in item 1 of the Vapor Collection Section of E.O. VR-204, Exhibit 2. The dynamic back pressure shall not exceed 0.35" WC @ 60 CFH and 0.62" WC @ 80 CFH
 - Liquid Removal Test in accordance with E.O. VR-204, Option 1 (Only test hoses containing more than 25 ml liquid)
 - Vapor Pressure Sensor Verification Test in accordance with E.O. VR-204
 - Veeder-Root Vapor Polisher Operability Test. in accordance with E.O. VR-204
 - Veeder-Root Vapor Polisher Emissions Test in accordance with E.O. VR-204
 - ISD Vapor Flow Meter Operability Test in accordance with E.O. VR-204

8. The owner/operator shall maintain the following monthly records in a District-approved log for at least 24 months from the date of entry (60

months if the facility has been issued a Title V or Synthetic Minor Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.

- Daily hours of operation.
- Daily consumption of fuel (in gallons or scf).
- Hours and amount of fuel in parts a) and b) shall be totaled on a rolling consecutive 12-month basis.

Start-up Requirements

This Authority to Construct is not a Permit to Operate. **The Authority to Construct requires that you do the following:**

1. Complete a Start-up Notification Form for each approved device.
2. Send the Start-up Notification Form(s) to the assigned Permit Engineer via e-mail, fax or mail **at least seven days** prior to operating your equipment.
3. Fulfill any Start-up Conditions (such as Start-up Source Test Requirements) required for any of the approved devices.

A Permit to Operate will not be issued without completing these steps.

Authorization of Limited Use

The Authority to Construct authorizes operation during the start-up period from the date of initial operation indicated in your Start-up Notification until the Permit to Operate is issued, up to a maximum of 90 days. All conditions included in this Authority to Construct will be in effect during the start-up period.

Right of Access

In accordance with Regulation 1-440, BAAQMD shall be granted the right of access to any premises on which an air pollution source(s) located for the purposes of:

- a) The inspection of the source,
 - b) The sampling of materials used at the source,
 - c) The conduct of an emission source test, and
 - d) The inspection of any records required by BAAQMD rule or permit condition.
-

Compliance with BAAQMD, State and Federal Rules and Regulations

This Authority to Construct does not authorize violations of the rules and regulations of BAAQMD (these may be viewed at www.baaqmd.gov), California or Federal law. Compliance with conditions in this permit does not mean that the permit holder is currently in compliance with BAAQMD Rules and Regulations. It is the responsibility of the permit holder to have knowledge of and be in compliance with all applicable rules and regulations.

Authority to Construct

This Authority to Construct expires two years from the issuance date unless the Authority to Construct has been renewed in accordance with Regulation 2-1-407.

Period

Note: This Authority to Construct does not modify or extend deadlines to comply with applicable BAAQMD, State or Federal requirements.

**Instructions
for AC
Renewal**

To renew your Authority to Construct send a detailed request letter stating how you meet the requirements of 2-1-407 to the Permit Engineer.

**Public
Records
Notice**

Unless you have already designated specifically identified materials in your permit application as trade secret, or confidential under the California Public Record Act, all data in your permit application, the permit itself, and all permit conditions will be considered a matter of public record and may be disclosed to a third party.

Jack P. Broadbent
Executive Officer/APCO

By Engineering Division

Appendix C.3

City of Pleasanton Generator Information Provided by BAAQMD

INTEROFFICE MEMO

DATE: April 21, 2005
TO: Raymond Salalila
THRU: Scott Lutz
THRU: Daphne Chong
FROM: Catherine Fortney
SUBJ: Application #12285; CITY OF PLEASANTON

P#16937, City of Pleasanton, has made an application for a standby generator, to be located adjacent to its new firestation #4 in Pleasanton. The engine has been certified by the California Air Resources Board under Executive Order U-R-014-0072, as a member of the EPA/CARB family 4VPXL07.3ACB. For calculating emissions from this engine, ISO 8178 D2 cycle weighted emission factors for all criteria pollutants except SO₂ were provided by the engine manufacturer. The engine has PM emissions of 0.079 g/bhp-hr, and NO_x emissions of 3.53 g/bhp-hr and thus meet the District's BACT/TBACT standards for large compression ignition internal combustion engines.

The District uses PM emissions as a proxy for toxic emission exposure to surrounding residential and industrial populations. A PM emissions level of 0.64 lbs/year automatically triggers a health risk assessment according to the District Risk Management Policy. At a maximum 50 hours per year permitted operation of this engine, this application exceeds a PM emission level of 0.64 lbs/year and so requires that a health risk assessment be performed.

Source 1 is a Kohler Model 200REOZD generator with a Volvo Model TAD741GE engine, rated at 316 BHP at standby. At 0.079 g/bhp-hr and 316 bhp, the annualized maximum total PM emissions for 50 hours per year operation are

$$316 \text{ bhp} * 0.079 \text{ g/bhp-hr} * 50 \text{ hr/yr} / 365.25 \text{ days/yr} / 24 \text{ hr/day} / 3600 \text{ sec/hr} = 3.955 \text{ E}^{-5} \text{ g/sec}$$

The emissions will exit through a 8" stack, located 9 feet above ground. The stack is vertical with a raincap.

Because no representative meteorological data was available for this site, an ISCST3 model for PM₁₀ exposure was used to estimate maximum 1-hour average ambient PM₁₀ concentrations. Annual average concentrations were estimated to be equal to ten percent of the predicted maximum 1-hour maximum average concentration at each receptor. Distance and directionality were used as the primary considerations to determine sites of maximum exposure. Residential risk is based on a continuous 70-year exposure to annual average pollutant concentrations. Off-site worker risk is based on a worker exposed for 5 days per week, 8 hours per day, 48 weeks per year for 46 years out of a 70-year lifetime.

The immediate vicinity is mostly residential and industrial, with the closest residential receptor approximately 132 feet from the source. A full screen model was used to estimate average ground level concentrations of PM in the immediate vicinity of the facility.

At 50 hr/year operation, the generator would result in an annual maximum residential GLC of 0.0304 µg/m³, resulting in a carcinogenic risk of approximately 9.12 in a million, with an associated health hazard index significantly less than 1.0. These numbers are consistent with the District's Risk Management Policy. I recommend that the generator be approved for construction as proposed.

B.2 - CalEEMod Outputs

**21480008 Commons at Gateway
Alameda County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Apartments Mid Rise	210	Dwelling Unit
Single Family Housing	97	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)		Utility Company	Pacific Gas & Electric Company
Climate Zone	4		2.2		
		Precipitation Freq (Days)			

1.3 User Entered Comments

63

Project Characteristics -

Land Use - Total residences include 210 apartments, 62 three story single family homes, and 35 two story single family homes.

Construction Phase - Default construction schedule assumed beginning August 2013.

Off-road Equipment - ARB Offroad App D Load Factors

Vehicle Emission Factors - VPRA Residential Fleet Mix

Woodstoves - Altered the amount of woodburning stoves and fireplaces.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	9.56	2.85	2.45	0.00	0.34	0.16	0.50	0.11	0.16	0.27	0.00	385.38	385.38	0.04	0.00	386.13
2014	0.58	3.27	3.60	0.01	0.26	0.20	0.45	0.01	0.20	0.21	0.00	570.95	570.95	0.05	0.00	571.93
Total	10.14	6.12	6.05	0.01	0.60	0.36	0.95	0.12	0.36	0.48	0.00	956.33	956.33	0.09	0.00	958.06

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.41	0.05	3.55	0.00		0.00	0.21		0.00	0.21	25.96	111.98	137.95	0.13	0.00	141.24
Energy	0.03	0.28	0.12	0.00		0.00	0.02		0.00	0.02	0.00	726.10	726.10	0.02	0.01	730.60
Mobile	2.01	2.49	19.32	0.02	2.48	0.10	2.58	0.10	0.10	0.20	0.00	2,171.47	2,171.47	0.11	0.00	2,173.76
Waste						0.00	0.00		0.00	0.00	43.22	0.00	43.22	2.55	0.00	96.87
Water						0.00	0.00		0.00	0.00	0.00	44.55	44.55	0.61	0.02	62.34
Total	5.45	2.82	22.99	0.02	2.48	0.10	2.81	0.10	0.10	0.43	69.18	3,054.10	3,123.29	3.42	0.03	3,204.81

3.0 Construction Detail

3.2 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.05	0.44	0.24	0.00		0.02	0.02		0.02	0.02	0.00	39.10	39.10	0.00	0.00	39.19
Total	0.05	0.44	0.24	0.00	0.09	0.02	0.11	0.05	0.02	0.07	0.00	39.10	39.10	0.00	0.00	39.19

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.00	0.00	0.90
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.00	0.00	0.90

3.3 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.13	0.00	0.13	0.05	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.11	0.88	0.50	0.00		0.04	0.04		0.04	0.04	0.00	85.75	85.75	0.01	0.00	85.93
Total	0.11	0.88	0.50	0.00	0.13	0.04	0.17	0.05	0.04	0.09	0.00	85.75	85.75	0.01	0.00	85.93

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	3.00
Total	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	3.00

3.4 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.18	1.18	0.84	0.00		0.08	0.08		0.08	0.08	0.00	126.26	126.26	0.01	0.00	126.57
Total	0.18	1.18	0.84	0.00		0.08	0.08		0.08	0.08	0.00	126.26	126.26	0.01	0.00	126.57

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.02	0.25	0.15	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	37.96	37.96	0.00	0.00	37.98
Worker	0.07	0.07	0.66	0.00	0.10	0.00	0.11	0.00	0.00	0.01	0.00	86.34	86.34	0.01	0.00	86.46
Total	0.09	0.32	0.81	0.00	0.11	0.01	0.13	0.00	0.01	0.02	0.00	124.30	124.30	0.01	0.00	124.44

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.44	1.84	0.00		0.16	0.16		0.16	0.16	0.00	281.03	281.03	0.03	0.00	281.66
Total	0.37	2.44	1.84	0.00		0.16	0.16		0.16	0.16	0.00	281.03	281.03	0.03	0.00	281.66

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.04	0.51	0.30	0.00	0.03	0.02	0.04	0.00	0.02	0.02	0.00	84.57	84.57	0.00	0.00	84.61
Worker	0.13	0.14	1.32	0.00	0.23	0.01	0.24	0.01	0.01	0.02	0.00	188.15	188.15	0.01	0.00	188.39
Total	0.17	0.65	1.62	0.00	0.26	0.03	0.28	0.01	0.03	0.04	0.00	272.72	272.72	0.01	0.00	273.00

3.5 Architectural Coating - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.12					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.39	2.39	0.00	0.00	2.40
Total	9.12	0.03	0.02	0.00		0.00	0.00		0.00	0.00	0.00	2.39	2.39	0.00	0.00	2.40

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69	3.69	0.00	0.00	3.70
Total	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69	3.69	0.00	0.00	3.70

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.19	0.12	0.00		0.02	0.02		0.02	0.02	0.00	15.75	15.75	0.00	0.00	15.80
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.03	0.19	0.12	0.00		0.02	0.02		0.02	0.02	0.00	15.75	15.75	0.00	0.00	15.80

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.47	0.00	0.00	1.47
Total	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.47	0.00	0.00	1.47

4.0 Mobile Detail

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,383.90	1,503.60	1274.70	3,092,720	3,092,720
Single Family Housing	928.29	977.76	850.69	2,063,312	2,063,312
Total	2,312.19	2,481.36	2,125.39	5,156,032	5,156,032

4.3 Trip Type Information

Land Use	Miles			Trip %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	12.40	4.30	5.40	26.10	29.10	44.80
Single Family Housing	12.40	4.30	5.40	26.10	29.10	44.80

Appendix C: Phase I Environmental Site Assessment

geologica

Report Phase I Environmental Site Assessment

Pleasanton Gateway Redevelopment Property

**APN 947-8-33
1500-1800 Valley Avenue
Pleasanton, California**

Submitted to:

**Pleasanton Gateway LLC
December 21, 2012**

Prepared by:

Geologica Inc.

**5 Third Street, Suite 224
San Francisco, California 94103
Phone: (415) 597-7883
Fax: (415) 597-7880**

geologica

Innovative Strategies for Managing Environmental Liability

December 21, 2012

Pleasanton Gateway LLC
1600 Dell Avenue
Campbell, CA 95008

Attention: Mr. Scott Trobbe

Subject:

**Report
Phase I Environmental Site Assessment
Pleasanton Gateway Redevelopment
Property
APN 947-8-33
1500-1800 Valley Ave
Pleasanton, CA**

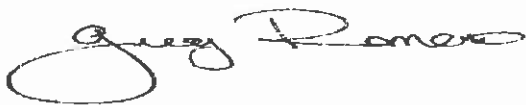
Dear Mr. Trobbe,

GEOLOGICA INC. (GEOLOGICA) is pleased to present this Phase I Environmental Site Assessment (ESA) report for the above-referenced property. The purpose of this ESA was to evaluate the site for indications of recognized environmental conditions that have the potential to impact soil and groundwater beneath the subject property.

We have enjoyed working with you on this project and appreciate the opportunity to be of service. Should you have any questions, please do not hesitate to contact us at (415) 596-7883.

Very truly yours,

GEOLOGICA, INC.



Greg Romero
Project Geologist



Brian F. Aubry, R.G., C.E.G., C.Hg
Principal

Report

Phase I Environmental Site Assessment

Pleasanton Gateway Redevelopment Property

**APN 947-8-33
1500-1800 Valley Avenue
Pleasanton, California**

**Prepared for:
Pleasanton Gateway LLC**

**Prepared by:
GEOLOGICA INC.**

**5 Third Street, Suite 224
San Francisco, California 94103
Phone: (415) 597-7883
Fax: (415) 597-7880**

December 21, 2012

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REPORT
PHASE I ENVIRONMENTAL SITE ASSESSMENT
PLEASANTON GATEWAY REDEVELOPMENT PROPERTY
APN 947-8-33
1500-1800 VALLEY AVENUE
PLEASANTON, CA

EXECUTIVE SUMMARY

- Purpose** This Phase I Environmental Site Assessment (ESA) was prepared by GEOLOGICA, INC. (GEOLOGICA) to identify Recognized Environmental Conditions (RECs) at or near the above-identified Site or Subject Property. This ESA was performed in conjunction with the contemplated development of the site.
- Guidance Protocol** Work was performed in general conformance with the limitations of ASTM Designation E1527-05.
- Scope** This assessment was accomplished through, and limited to, the following tasks:
- Interviews with knowledgeable personnel;
 - Site walk-through and windshield survey of subject property vicinity;
 - Review of records reasonably available at local and regional public agencies through agency visits, telephone contacts, and environmental database search;
 - Investigation of site history through interviews and review of readily available historic documentation such as: a) Aerial photos; b) Topographic maps; c) Sanborn Fire Insurance Maps; d) Historic city directories; e) Agency files; and f) Previous site investigation documents; and,
 - Review of readily available relevant documentation available through standard resources regarding environmental, physiographic, hydrologic, geologic, and hydrogeologic conditions.
- Site Location and Surrounding Properties** The subject site comprises 26-acres of undeveloped vacant land and is located in a commercial and residential area of Pleasanton, CA. The site is bounded by Highway 680 to the west, Bernal Avenue to the north, Valley Avenue to the east and vacant undeveloped land to the south. The site is identified as Assessor Parcel Number (APN) 947-8-33 and anticipated to be addressed 1500 through 1800 Valley Avenue.
- Site Reconnaissance** The 26-acre subject property is undeveloped and currently vacant consisting of grass and tilled soil on open land. The vacant property is designated to be changed from commercial use to a residential development. No evidence of onsite dumping or illegal disposal was observed onsite.
- Physical Setting** The ground surface in the site vicinity is generally flat with a slight downward gradient to the west. The site elevation is approximately 320 ft above mean sea level and a seasonal, north-trending stream, Arroyo de la Laguna is located on the west side of Highway 680. The site is located near the center of the Coast Range geomorphic province, a northwesterly trending complex of subparallel ridges and valleys which extends several hundred miles to the north and south. The ridges in the region are typically composed of resistant sandstones or marine volcanics, and the valley areas are composed of relatively deep alluvial deposits with mean soil particles decreasing with increasing distance from the upland source. The depth to bedrock is estimated at 100 to 150 feet below ground surface (bgs). The soil profile is typical of in-situ weathering of uplifted marine sedimentary and volcanic bedrock sources which consist of

unconsolidated, moderately sorted, permeable, and fine to medium-grained colluvium. The upper portion of the soil profile was formed when bedrock was uplifted to its present configuration, and ranges in depths from 10 to 50 feet. According to the City of Pleasanton Water Department, there are several perennial aquifers in the area. The near-surface aquifer is inferred to be unconfined and encountered between 20 and 60 feet below ground surface (bgs). Groundwater beneath the site likely flows west towards Arroyo de Laguna (LFR, 2000).

**Hazardous
Materials and
Other
Environmental
Issues**

The site is currently undeveloped and vacant. No evidence of hazardous material storage, disposal, dumping or other environmental issues was observed.

Site History

According to historical sources, the subject area was previously used for agricultural purposes, and has always been vacant, and mainly used for hay production in the past. Review of topographic maps and aerial photographs dating to 1906 and 1939, respectively indicated no evidence of historic buildings or structures in the immediate area. The 26-acre subject property was part of a larger 39-acre property, and in 2010, approximately 12 of the 39-acres was developed into the Pleasanton Gateway Shopping Center with Safeway grocery store. The remaining 26-acres south of the shopping center remain vacant and undeveloped and are now planned for a residential development.

**Previous
Investigations**

Report Phase I Environmental Site Assessment for Pleasanton Gateway Vacant Land, APN 947-0008-017, Pleasanton, CA (Geologica, 2009)

GEOLOGICA conducted a Phase I Environmental Site Assessment in December 2009 for Comerica Bank, for 39-acres of undeveloped vacant land, designated to be used for commercial and office uses. GEOLOGICA reviewed previous Phase Is and soil investigations and determined that no organochlorine pesticides or metals were detected in soil samples at the site above the residential PGRs or regional background levels, and is not likely to represent a significant threat to human health of the environment. Furthermore, no adjacent properties pose a significant risk to the subject property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Report Phase I Environmental Site Assessment for Redevelopment Acreage, Corner of Hwy 680 and Bernal Ave Pleasanton, CA (Geologica, 2008)

GEOLOGICA conducted a Phase I Environmental Site Assessment in March 2008 for Pleasanton Gateway LLC, for 12.5-acres of vacant land located on the northwest corner of the larger 39-acre undeveloped property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation. No additional Phase II work was recommended.

Phase I Environmental Site Assessment Bernal Property Bernal Property Bernal Ave at Highway 680 Pleasanton, CA (LFR, 2000)

The Phase I Environmental Site Assessment for the Bernal Property was performed by Levine-Fricke (LFR) in July 2000. The Assessment was done for a larger 500-acre property located south of Bernal Avenue and on the east and west sides of Highway 680 in Pleasanton, CA. The 39-acre subject property is part of the greater 500-acre undeveloped property and is located on the east side of Highway 680. The west side of Highway 680 has since been developed into a residential community and park, however, from 1910 to 1980 this parcel of land was used for a wastewater treatment plant that included an effluent holding and aeration reservoir ("Lake Monaco"), and 12 sludge drying beds. LFR concluded that there was no evidence of adverse environmental conditions associated with the site. However, LFR did recommend that further environmental investigation be conducted due to the historical uses of the site for agricultural production, disposal of treated sanitary sewer effluent, radionuclides and chemicals of concern. The investigation subsequently confirms that historical on-site use consisted primarily of hay

production. The 39-acre subject property is not reportedly related to the adjacent sanitary sewer effluent area.

Follow-up Phase II Soil Investigations by LFR (2000b) and Cehn (2000).

Soil Investigations were conducted at the 500-acre Bernal Property by LFR (2000b) on both the east and west sides of Highway 680 in Pleasanton, CA. The purpose of the investigations was to assess the presence of organochlorine pesticides and metals in soil potentially associated with previous agricultural activities at the site and potential soil impacts related to the past uses, in specific areas of the 500-acre site for wastewater treatment and sludge disposal. Samples were collected from 58 borings from three areas: the agricultural area (of which the 39-acre subject property is a part); the former Lake Monaco area (not part of the 39-acre site); and the former sludge drying bed area (also not part of the 39-acre site).

Sampling results from within the Subject Property:

- LFR (2000b) collected a total of 48 samples in the agricultural areas for testing for organochlorine pesticides and metals from depths of 0 to 6-in and 12 to 18 in below grade including approximately 8 to 10 soil samples on the subject property and the rest (44 samples) were from off-site locations. Analytical results indicated from all the samples indicated that no concentrations of organochlorine pesticides at the site exceeded the residential PRGs and that concentrations of metals were within the published background ranges for the western United States.

Sampling results from areas outside the Subject Property:

- LFR (2000) collected 11 samples (Lake Monaco area) and 12 samples (sludge drying bed area) for testing for pesticides, PCBs, VOCs, TPH, and metals from depths of 0 to 3 ft and 6 to 9 ft. The analytical results indicated that PCBs and VOCs were not present above the analytical detection limits at the site and low concentrations of metals and organochlorine pesticides detected were well below the residential PRGs. Furthermore, low TPH as diesel concentrations detected were considered unlikely to be a significant threat to human health or the environment.
- Cehn (2000) conducted a Radiological Testing, Sampling and Analysis Program to investigate sub-surface soils for possible radiological impacts at the 500-acre Bernal property. Samples were collected from the "sludge drying area" and the "Lake Monaco" area which are both off-site from the subject property on the other side of Highway 680. Cehn (2000) concluded that the only radioactive elements detected at the site were naturally occurring radioactive potassium, radium, and thorium, and man-made radioactive cesium and plutonium-238. Cehn further concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability expected in measurements made over wide areas. Therefore, no further analysis of the site with respect to radiological conditions was recommended.

Offsite Properties There is no direct evidence that contamination from other off-site properties in the area have impacted the property.

Conclusions We have performed a Phase I Environmental Site Assessment in conformance with the ASTM 1527-05 Scope of Work for a Phase I Environmental Site Assessment of the Pleasanton Gateway Redevelopment Property in Pleasanton, CA. No Recognized Environmental Conditions (RECs) were noted during this investigation. This assessment noted the following:

On-Site

- Results of a previous Phase I Environmental Site Assessments and a Soil Investigation by GEOLOGICA (2008, 2009) and LFR (2000, 2000b) concluded that there was no evidence of adverse environmental conditions associated with the property. No organochlorine pesticides or metals were detected in soil samples at the site above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

Off-Site Impacts to Subject Property

- No VOCs, PCBs, TPH, organochlorine pesticides, or metals were detected in adjacent properties that were above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.
- Radiological testing was also conducted at an adjacent property to the southwest in a report by Joel I. Cehn (2000). It was concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability found and expected in measurements made over wide areas. Cehn recommended that no further radiological analysis be conducted at the site.

Recommendations No additional work is recommended at this time.

1 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) prepared for the Pleasanton Gateway Redevelopment Property (“subject property or site”) located in Pleasanton, CA, as shown in **Figure 1 – Site Location Map**. The anticipated property address for the redevelopment property is 1500-1800 Valley Avenue with APN 947-8-33. Currently, the subject property comprises 26-acres of vacant land.

1.1 PURPOSE

The purpose of this Phase I ESA was to review past and present land use practices and activities at and near the subject property for evidence of Recognized Environmental Conditions (RECs) that could result in impacts to soil, surface water, and/or groundwater at, beneath, or originating from, the subject property. The result of this Phase I ESA is a listing of identified Recognized Environmental Conditions, defined by ASTM as “... *the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.*”

This ESA was performed in conjunction with the contemplated redevelopment of the site from commercial to residential.

1.2 GUIDANCE PROTOCOL

Work was conducted in general conformance with the scope and limitations of the American Society for Testing Materials (ASTM) *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (Standard Designation E1527-05)*.

1.3 SCOPE OF SERVICES

This assessment was accomplished through, and limited to, the following tasks:

- Interviews with knowledgeable personnel;
- Site walk-through and windshield survey of subject property vicinity;
- Review of records reasonably available at local and regional public agencies through agency visits, telephone contacts, and environmental database search;
- Investigation of site history through interviews and review of readily available historic documentation such as: a) Aerial photos; b) Topographic maps; c) Sanborn Fire Insurance Maps; d) Historic city directories; e) Agency files; and f) Previous site investigation documents; and.

- Review of readily available relevant documentation available through standard resources regarding environmental, physiographic, hydrologic, geologic, and hydrogeologic conditions.

1.4 EXCLUSIONS

The collection of air, soil, groundwater, surface water, drinking water, asbestos survey, or lead-based paint, or performance of analytical laboratory testing for hydrocarbons, lead, radon, or other compounds, was not included as a part of our scope of services, nor is the sampling and testing of these materials within the normal scope of a Phase I ESA. This work did not constitute comprehensive regulatory compliance, endangered species, wetlands, indoor air quality, or high voltage power line audits.

1.5 CREDENTIALS

This report has been prepared under the professional supervision of the principal(s) whose signature(s) appear herein. Resumes for those individuals are included in **Attachment 1**. The information contained in this report has received appropriate technical review and approval. The conclusions represent professional judgments and are founded upon the findings of the investigations identified in the report and the interpretation of such data based on our experience and expertise according to the existing standards of care for work of this kind.

2 SITE DESCRIPTION

This section describes the site location and physical characteristics based on: a site visit by GEOLOGICA Project Geologist Greg Romero; information and data obtained from topographic maps and physical environment information provided by Environmental Data Resources (EDR); and, office-based research.

2.1 SITE LOCATION

The site is located in Pleasanton, California as shown in **Figure 1 – Site Location Map**. The subject site comprises 26-acres of undeveloped vacant land and is located in a commercial and residential area of Pleasanton. The site is bounded by Highway 680 to the west, Bernal Avenue to the north, Valley Avenue to the east and vacant undeveloped land to the south. A **Site Layout Map** is provided as **Figure 2**. The site is identified as Assessor Parcel Number (APN) 947-8-33 and anticipated to be addressed 1500 through 1800 Valley Avenue. Selected photographs of the property and vicinity are reproduced in **Appendix A**.

2.2 SURROUNDING PROPERTIES

The subject property is located in a mixed commercial and residential area of Pleasanton. Adjacent and nearby properties observed during the December 13, 2012 site observation visit included:

- North – Pleasanton Gateway Shopping Center with Safeway, beyond which is Bernal Avenue.
- East – Valley Avenue, beyond which are residential apartments.
- South – Undeveloped land, beyond which is Laguna Creek Lane.
- West – Highway 680, beyond which are residential homes.

No visible evidence was observed of environmental impacts to the subject site from the above-listed adjacent and nearby properties.

2.3 PHYSICAL SETTING

This section summarizes site and general area physical setting information.

2.3.1 SITE AND AREA TOPOGRAPHY AND OCCURRENCE OF SURFACE WATER

The ground surface in the site vicinity is generally flat with a slight downward gradient to the west. The site elevation is approximately 320 ft above mean sea level and a seasonal, north-trending stream, Arroyo de la Laguna, is located on the west side of Highway 680 (LFR, 2000).

2.3.2 REGIONAL AND LOCAL GEOLOGY AND SOIL CONDITIONS

The site is located near the center of the Coast Range geomorphic province, a northwesterly trending complex of subparallel ridges and valleys which extends several hundred miles to the north and south. The ridges in the region are typically composed of resistant sandstones or marine volcanics, and the valley areas are composed of relatively deep alluvial deposits with mean soil particles decreasing with increasing distance from the upland source. The depth to bedrock is estimated at 100 to 150 feet below ground surface (bgs). The soil profile is typical of in-situ weathering of uplifted marine sedimentary and volcanic bedrock sources which consist of unconsolidated, moderately sorted, permeable, and fine to medium-grained colluvium. The upper portion of the soil profile was formed when bedrock was uplifted to its present configuration, and ranges in depths from 10 to 50 feet (LFR, 2000).

2.3.3 GROUNDWATER

According to the City of Pleasanton Water Department, there are several perennial aquifers in the area. The near-surface aquifer is inferred to be unconfined and encountered between 20 and 60 feet below ground surface (bgs). Groundwater beneath the site likely flows west towards Arroyo de Laguna (LFR, 2000).

3 SITE RECONNAISSANCE

A site reconnaissance of the property was conducted on December 13, 2012 by: GEOLOGICA Project Geologist Mr. Greg Romero. The purpose of the site reconnaissance was to observe existing property conditions and to evaluate evidence for recognized environmental conditions, including hazardous materials and/or wastes.

Observations noted during the site reconnaissance are summarized below. The property layout and general setting is provided in **Figure 2 – Site Layout Map**. Site photographs of the property and immediate vicinity are included in **Appendix A**.

3.1 CURRENT USES AND OCCUPANTS

The 26-acre subject property is undeveloped and currently vacant consisting of grass and tilled soil on open land. The vacant property is designated to be changed from commercial use to a residential development. No evidence of onsite dumping or illegal disposal was observed onsite.

3.2 HAZARDOUS MATERIALS – USE AND STORAGE

This section describes site hazardous materials use and storage conditions.

3.2.1 HAZARDOUS MATERIALS

The site is currently undeveloped and vacant. No evidence of hazardous materials, storage, disposal, and dumping was observed.

3.2.2 ASTs, USTs, AND OTHER CONTAINMENT STRUCTURES

There was no evidence or surface indications of aboveground storage tanks (AST) or underground storage tanks (USTs) on the property. Furthermore, the EDR database search indicated no historical presence of USTs at the site.

3.2.3 TRANSFORMERS AND ELECTRICAL EQUIPMENT

The site is currently undeveloped and vacant. No transformers and electrical equipment were observed at the subject property.

3.3 UTILITIES AND INFRASTRUCTURE

Site utility services and infrastructure are described in the following sections.

3.3.1 ELECTRICAL SERVICE AND NATURAL GAS

The site is currently undeveloped and vacant.

3.3.2 BACKUP GENERATORS

The site is currently undeveloped and vacant.

3.3.3 POTABLE WATER

The site is currently undeveloped and vacant.

3.3.4 INDUSTRIAL, SANITARY, AND STORMWATER SEWERS

The site is currently undeveloped and vacant.

3.4 HAZARDOUS AND NON-HAZARDOUS WASTES

This section describes liquid and solid waste streams generated or produced at the subject property.

3.4.1 HAZARDOUS WASTE

The site is currently undeveloped and vacant. No evidence of hazardous waste, storage, disposal, and dumping was observed.

3.4.2 WASTE OILS AND OTHER WASTES

The site is currently undeveloped and vacant. No evidence of waste oils or other waste, storage, disposal, and dumping was observed.

3.4.3 SOLID WASTE

The site is currently undeveloped and vacant. No solid waste was observed.

3.5 OTHER ENVIRONMENTAL ISSUES

Other than the items described above and below, no evidence of current or historical underground storage tanks (USTs), vent pipes, fill pipes, hydraulic lifts, drums, chemical containers, drains, sumps, clarifiers, drywells, discharge areas, discolored soils, pools of liquid, odors, wells, septic tanks, concrete or asphalt patches, monitoring wells, etc. was observed. No evidence of distressed vegetation, dumping, or disturbed soil was observed onsite.

3.5.1 ASBESTOS

The site is currently undeveloped and vacant.

3.5.2 LEAD-BASED PAINTS

The site is currently undeveloped and vacant.

3.5.3 HIGH POWER TOWER-MOUNTED TRANSMISSION LINES

No high power tower-mounted transmission lines were observed in close proximity to the property.

3.5.4 MICROBIAL GROWTH & MOISTURE INTRUSION

The site is currently undeveloped and vacant.

3.5.5 ENVIRONMENTAL NON-COMPLIANCE ISSUES (ENCIS)

No obvious material non-compliance issues were noted by GEOLOGICA in the course of performing the ESA.

3.5.6 WETLANDS

No evidence of the presence or potential presence of wetland areas on or immediately adjacent to the subject property.

3.5.7 ACTIVITY & USE LIMITATIONS (AULs)

No AULs are known to exist for the subject property.

4 SITE HISTORY

Information about the property's history and development are summarized below. The site history was developed based on Sanborn Insurance Maps, Aerial photographs, Topographic maps, City Directories, review of agency files and interviews with site personnel. Copies of historical Sanborn Maps, Aerial photographs, Topographic maps, and City Directories are provided in **Appendix B**.

4.1 PROPERTY HISTORY SUMMARY

According to historical sources, the subject area was previously used for agricultural purposes, and has always been vacant, and mainly used for hay production in the past. Review of topographic maps and aerial photographs dating to 1906 and 1939, respectively indicated no evidence of historic buildings or structures in the immediate area. The 26-acre subject property was part of a larger 39-acre property, and in 2010, approximately 12 of the 39-acres was developed into the Pleasanton Gateway Shopping Center with Safeway grocery store. The remaining 26-acres south of the shopping center remain vacant and undeveloped and are now planned for a residential development.

4.2 HISTORIC AERIAL PHOTOGRAPHS

Historical aerial photographs were provided by EDR and are reproduced in **Appendix B**.

<u>Year</u>	<u>Source of Photo</u>	<u>Scale</u>	<u>Site & Surrounding Property Use</u>
1939	Fairchild	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1950	Aero	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1958	Cartwright	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1965	Cartwright	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use.
1974	NASA	1"=500'	The subject property and vicinity appears to be farm and /or agricultural in use. Highway 680 is now present.

<u>Year</u>	<u>Source of Photo</u>	<u>Scale</u>	<u>Site & Surrounding Property Use</u>
1982	USGS	1"=500'	The subject property and vicinity appears to be undeveloped land. Surrounding areas to the north have begun to be developed.
1993	EDR	1"=500'	The subject property is present and undeveloped. Surrounding areas to the north of Bernal Ave are significantly more developed.
1998	USGS	1" =500'	The subject property is present and undeveloped. Several building structures are present on the northeast portion of the subject property.
2005	EDR	1"=500'	The subject property is present and undeveloped. A residential community is now present to the northeast of the subject property.
2006	EDR	1"=500'	The subject property has not changed from the 2005 aerial photograph.

4.3 HISTORIC TOPOGRAPHIC MAPS

Historic topographic maps were provided by EDR and are reproduced in **Appendix B**.

<u>Year</u>	<u>Scale</u>	<u>Site & Surrounding Property Uses (Topographic Maps)</u>
1906	1:62,500	The property is located within an undeveloped area, though minimal detail is present at the scale.
1947	1:50,000	The property is designated as agricultural or undeveloped land.
1953	1:24,000 1:62,500	The property is designated as agricultural or undeveloped land.
1961	1:24,000 1:62,500	The property is designated as agricultural or undeveloped land.
1968	1:24,000	The property is designated as agricultural or undeveloped land.
1973	1:24,000	The property is designated as agricultural or undeveloped land.
1980	1:24,000	The property is designated as agricultural or undeveloped land.

4.4 HISTORICAL DIRECTORIES

There is no listings for the property address in EDR City Directory abstract.

4.5 HISTORICAL SANBORN MAPS

EDR reported “Unmapped Property” for historical Sanborn Maps.

4.6 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

The following section summarizes previous site environmental investigation activities conducted in the general area. Only a portion of our Subject property is included in these investigations. Relevant documentation and selections from key reports are included in **Appendix D**.

Report Phase I Environmental Site Assessment for Pleasanton Gateway Vacant Land, APN 947-0008-017, Pleasanton, CA (Geologica, 2009)

GEOLOGICA conducted a Phase I Environmental Site Assessment in December 2009 for Comerica Bank, for 39-acres of undeveloped vacant land, designated to be used for commercial and office uses. GEOLOGICA reviewed previous Phase Is and soil investigations and determined that no organochlorine pesticides or metals were detected in soil samples at the site above the residential PGRs or regional background levels, and is not likely to represent a significant threat to human health of the environment. Furthermore, no adjacent properties pose a significant risk to the subject property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Report Phase I Environmental Site Assessment for Redevelopment Acreage, Corner of Hwy 680 and Bernal Ave Pleasanton, CA (Geologica, 2008)

GEOLOGICA conducted a Phase I Environmental Site Assessment in March 2008 for Pleasanton Gateway LLC, for 12.5-acres of vacant land located on the northwest corner of the larger 39-acre undeveloped property. GEOLOGICA concluded that no Recognized Environmental Conditions were noted during their investigation and that no additional Phase II work was recommended.

Phase I Environmental Site Assessment Bernal Property Bernal Property Bernal Ave at Highway 680 Pleasanton, CA (LFR, 2000)

The Phase I Environmental Site Assessment for the Bernal Property was performed by Levine-Fricke (LFR) in July 2000. The Assessment was done for a larger 500-acre property located south of Bernal Avenue and on the east and west sides of Highway 680 in Pleasanton, CA. The 39-acre subject property is part of the greater 500-acre undeveloped property and is located on the east side of Highway 680. The west side of Highway 680 has since been developed into a residential community and park, however, from 1910 to 1980 this parcel of land was used for a wastewater treatment plant that included an effluent holding and aeration reservoir (“Lake Monaco”), and 12 sludge drying beds. LFR concluded that there was no evidence of adverse environmental conditions associated with the site. However, LFR did recommend that further environmental investigation be conducted due to the historical uses of the site for agricultural production, disposal of treated sanitary sewer effluent, radionuclides and chemicals of concern. The investigation subsequently confirms that historical on-site use consisted primarily of hay production. The 39-acre subject property is not reportedly related to the adjacent sanitary sewer effluent area.

Follow-up Phase II Soil Investigations by LFR (2000b) and Cehn (2000).

Soil Investigations were conducted at the 500-acre Bernal Property by LFR (2000b) on both the east and west sides of Highway 680 in Pleasanton, CA. The purpose of the investigations was to assess the presence of organochlorine pesticides and metals in soil potentially associated with previous agricultural activities at the site and potential soil impacts related to the past uses, in specific areas, of the 500-acre site for wastewater treatment and sludge disposal. Samples were collected from 58 borings from three areas: the agricultural area (of which the 39-acre subject property is a part); the former Lake Monaco area (not part of the 39-acre site); and the former sludge drying bed area (also not part of the 39-acre site).

Sampling results from within the Subject Property:

- LFR (2000b) collected a total of 48 samples in the agricultural areas for testing for organochlorine pesticides and metals from depths of 0 to 6-in and 12 to 18 in below grade including approximately 8 to 10 soil samples on the subject property and the rest (44 samples) were from off-site locations. Analytical results indicated from all the samples indicated that no concentrations of organochlorine pesticides at the site exceeded the residential PRGs and that concentrations of metals were within the published background ranges for the western United States.

Sampling results from areas outside the Subject Property:

- LFR (2000) collected 11 samples (Lake Monaco area) and 12 samples (sludge drying bed area) for testing for pesticides, PCBs, VOCs, TPH, and metals from depths of 0 to 3 ft and 6 to 9 ft. The analytical results indicated that PCBs and VOCs were not present above the analytical detection limits at the site and low concentrations of metals and organochlorine pesticides detected were well below the residential PRGs. Furthermore, low TPH as diesel concentrations detected were considered unlikely to be a significant threat to human health or the environment.
- Cehn (2000) conducted a Radiological Testing, Sampling and Analysis Program to investigate sub-surface soils for possible radiological impacts at the 500-acre Bernal property. Samples were collected from the “sludge drying area” and the “Lake Monaco” area which are both off-site from the subject property on the other side of Highway 680. Cehn (2000) concluded that the only radioactive elements detected at the site were naturally occurring radioactive potassium, radium, and thorium, and man-made radioactive cesium and plutonium-238. Cehn further concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability expected in measurements made over wide areas. Therefore, no further analysis of the site with respect to radiological conditions was recommended.

5 RECORDS REVIEW

GEOLOGICA reviewed readily available records from the entities listed below. Copies of relevant documents for the property are presented in **Appendix C**.

5.1.1 PLEASANTON BUILDING / PLANNING DEPARTMENT

The Pleasanton Building / Planning Department was contacted by Mr. Romero. According to Mr. Marion Pavan, City of Pleasanton Associate Planner for the Pleasanton Gateway Project; the current project for development at the subject site is still currently under final review with the city. Mr. Pavan was unaware of any environmental concerns and confirmed that historical use at the subject property has always been vacant agricultural land.

5.1.2 PLEASANTON FIRE DEPARTMENT

The Pleasanton Fire Department was contacted by Mr. Romero. There was no files for the subject property.

5.1.3 ALAMEDA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

Alameda County Environmental Health reported no available files for the subject property.

5.1.4 DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

No file was identified for the subject property.

5.1.5 SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)

No file was identified for the subject property.

5.1.6 BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

No file was identified for the subject property.

5.2 EDR REPORT

The report prepared by EDR entitled The EDR Radius Map with GeoCheck Report dated December 13, 2012 contains a summary of a search of federal, state, and local governmental environmental information sources listing known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations that might include the property or properties in the vicinity and USTs, according to prescribed search distances. A reproduction of this report is presented in **Appendix B**.

5.2.1 EDR GOVERNMENT AGENCY DATABASES SUMMARY – SUBJECT PROPERTY

The subject property was not listed in any of the databases searched by EDR.

5.2.2 EDR GOVERNMENT AGENCY DATABASES SUMMARY – SURROUNDING PROPERTIES

The EDR report provides a listing and mapping of sites within required search radii, their distance and geographical location relative to the subject property. The EDR regulatory agency database reported numerous listings within required search radii of the property. Properties that are located nonadjacent and interpreted as hydraulically downgradient of the property are unlikely to have impacted soil and groundwater with hazardous materials at the property. Key properties are described below.

EPA RCRA-SQG – There is two (2) additional sites on this list within 0.25-miles of the subject property.

ENVIROSTOR - There are two (2) additional sites on this list within 1-mile mile of the subject property.

DRYCLEANERS – There is one (1) additional site on this list within 0.25-miles of the subject property.

Summary – Although there are some listed sites in the vicinity, based on the regulatory agency status and/or location of these facilities relative to the subject site, the potential for these sites to have impacted the subject property is considered low at this time.

6 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section summarizes the findings and provides conclusions of the Phase I ESA, and lists recommendations to address residual environmental issues and/or concerns.

6.1 SUMMARY OF FINDINGS

The following Key Findings were identified in conjunction with the subject property:

- The 26 –acre subject property has always been vacant and undeveloped until the present day; the only changes have been residential and commercial development in the surrounding areas.
- Review of available regulatory information did not indicate direct evidence that nearby sites have significantly impacted soil or groundwater beneath the property. Thus, there is no direct evidence that the site has been environmentally impacted by nearby sites.

6.2 DATA GAPS

In the opinion of the preparers of this Phase I ESA, no significant data gaps, as defined in ASTM 1527-05, were noted during performance of this Phase I ESA.

6.3 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the ASTM 1527-05 Scope of Work for a Phase I Environmental Site Assessment of the Pleasanton Gateway Redevelopment Property in Pleasanton, CA. No Recognized Environmental Conditions (RECs) were noted during this investigation. This assessment noted the following:

On-Site

- Results of a previous Phase I Environmental Site Assessments and a Soil Investigation by GEOLOGICA (2008, 2009) and LFR (2000, 2000b) concluded that there was no evidence of adverse environmental conditions associated with the property. No organochlorine pesticides or metals were detected in soil samples at the site above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

Off-Site Impacts to Subject Property

- No VOCs, PCBs, TPH, organochlorine pesticides, or metals were detected in adjacent properties that were above the residential PRGs or regional background levels, and not likely to represent a significant threat to human health or the environment.

- Radiological testing was also conducted at an adjacent property to the southwest in a report by Joel I. Cehn (2000). It was concluded that the variability of the results for both natural and man-made radioactivity measured at the site was typical of variability found and expected in measurements made over wide areas. Cehn recommended that no further radiological analysis be conducted at the site.

6.4 RECOMMENDATIONS

No additional work is recommended at this time.

7 LIMITATIONS

This Phase I ESA report is subject to GEOLOGICA's Master Services Agreement with Pleasanton Gateway, LLC. The report has been prepared solely for Pleasanton Gateway in response to GEOLOGICA's proposal. Other parties may rely on the findings and conclusions of the report for informational purposes only. However, Pleasanton Gateway and other parties who may rely on the findings and conclusions of the report should recognize that this report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions in this report are predicated on a site reconnaissance, a review of specified regulatory records, and a review of the historical usage of the property as presented in this report.

The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Thus, the information contained herein is only valid as of the date of the report, and will require an update to reflect recent records review/site visits. Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee of the results of the study is made within the intent of this report or any subsequent report, correspondence or consultation, either express or implied. The services performed were conducted in accordance with the local standard of care in the geographic region at the time the services were rendered. Pleasanton Gateway and other parties should also understand that radon, lead in drinking water, and methane gas were not addressed in the scope of services of this report.

8 REFERENCES

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- b. Cehn, Joel I. C.H.P (Cehn, 2000) - Radiological Testing, Sampling and Analysis Bernal Property, July 21, 2000.
- c. EDR –Aerial Photo Decade Package for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 17, 2012.
- d. EDR –City Directory Abstract for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 17, 2012.
- e. EDR- The Sanborn Map Report for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 14, 2012.
- f. EDR- The EDR Radius Map with GeoCheck for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 13, 2012.
- g. EDR- The EDR Historical Topographic Map Report for Pleasanton Gateway 1500-1800 Valley Ave, APN 947-8-33 in Pleasanton, CA 94566, December 14, 2012.
- h. Geologica (Geologica, 2008) – Report Phase I Environmental Site Assessment Redevelopment Acreage Corner of Hwy 680 and Bernal Ave Pleasanton, California, March 21, 2008.
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- j. LFR Levine-Fricke (LFR, 2000) - Phase I Environmental Site Assessment Bernal Property Bernal Avenue at Highway 680, Pleasanton, California, July 24, 2000.
- k. LFR Levine-Fricke (LFR, 2000b) - Results of Soil Investigations Bernal Property, Pleasanton, California, July 25, 2000.

Figures

Figure 1 Site Location Map

Figure 2 Site Layout Map



Map courtesy of Google Maps



Approximate Scale
in Feet
0' 1000'

Site Layout Map

Pleasanton Gateway Redevelopment Property

APN 947-8-33

1500 - 1800 Valley Avenue

Pleasanton, California

geologica

San Francisco, CA

Figure 2

Appendix D: Environmental Noise Assessment

The Commons at Gateway

Pleasanton, California

Environmental Noise Assessment

11 June 2013

Prepared for:

Pleasanton Gateway, LLC

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CSA Project Number: 12-0519

INTRODUCTION

This report summarizes our environmental noise assessment for The Commons at Gateway residential project in Pleasanton, California. The purpose of this study is to quantify the noise environment, compare it with City and State goals for environmental noise, and propose conceptual noise mitigation measures as needed based on the current site plan.

Following is a summary of our findings:

1. The project will incorporate sound-rated windows, doors and exterior walls into the building shell(s) to reduce traffic noise to DNL¹ 45 dB² or lower indoors. Preliminary estimates suggest that sound insulation ratings up to approximately STC³ 39 will be sufficient for residences along Interstate 680.
2. Ventilation or air conditioning systems will be provided in apartment units so the interior noise goal will be met if occupants desire to close their windows.
3. The proposed apartment buildings, noise berm/barrier in the southern portion of the site, and selected row house yard barriers, will reduce estimated traffic noise in the central park and pool area, and single-family house yards, to between approximately DNL 60 to 65 dB.
4. Noise from mechanical equipment, such as air-conditioning equipment, must meet the Pleasanton Municipal Code limits. This should be evaluated in detail when equipment types, locations and sizes are selected.

DESCRIPTION

The project will consist of 97 detached houses and 210 rental apartment units in nine buildings on a 26.7-acre site between Interstate 680 (I-680) and Valley Avenue (see Figure 1, attached). Detached houses will consist of 62 three-story row houses and 35 two-story single-family houses, most of which will be partially shielded from I-680 by the three-story apartment buildings. Outdoor use space will include a 1.3-acre community park, and individual yards for single-family houses. Amenities associated with the community park will include a business center, conference facilities, workout area, pool, barbeque, fire pit, and tot lot.

The site is generally flat, with approximately a five foot elevation differential which ranges from about three to eight feet below the elevation of I-680. Existing residences are located across I-680 to the southwest, shielded from the freeway by an earthen berm, and across Valley Avenue to the northeast. A commercial development borders the site to the north, between the site and Bernal Avenue. Stores include Safeway and CVS, which both have loading docks adjacent to the northern portion of the site.

¹ Day-Night Average Sound Level (DNL) – A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm - 7 am) to account for the increased sensitivity of people during sleeping hours.

² A-Weighted sound pressure level (or noise level) represents the noisiness or loudness of a sound by weighting the amplitudes of various acoustical frequencies to correspond more closely with human hearing. A 10-dB (decibel) increase in noise level is perceived to be a doubling of loudness. A-Weighting is specified by the U.S. EPA, OSHA, Caltrans, and others for use in noise measurements. All sound levels (dB) in this document are A-weighted.

³ Sound Transmission Class (STC) – A single-number rating derived from the sound insulation properties of a partition. Numerically, STC represents the number of decibels of speech sound reduction from one side of the partition to the other.

ACOUSTICAL CRITERIA

The Pleasanton General Plan

The Noise Element of the Pleasanton General Plan 2005-2025, adopted 21 July 2009, contains land use compatibility guidelines for environmental noise in the community. Table 1, below, summarizes these guidelines for residential land uses and park areas.

Table 1: Summary of Table 11-5: Noise and Land Use Compatibility Guidelines

DNL Value in Decibels			Compatibility Level
Detached Residential	Multi-Family Residential	Parks and Recreation Areas	
60 dB or less	65 dB or less		<i>Normally Acceptable</i> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.
60 to 75 dB	65 to 75 dB	65 to 80 dB	<i>Conditionally Acceptable</i> Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
Greater than 75 dB		Greater than 80 dB	<i>Unacceptable</i> New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

In addition to the land use compatibility guidelines, the Noise Element outlines the following noise level goals:

- Interior noise goal of DNL 45 dB or lower for all single and multi-family residences.
- Maximum instantaneous noise level goals indoors, when the noise source is rail activity or aircraft. The project site is located far outside both the DNL 60 dB railroad noise contour and the CNEL 60 dB airport noise contour for Livermore Municipal Airport. Therefore, this analysis assumes these instantaneous noise level goals do not apply.

The Final Supplemental EIR for General Plan Amendment and Rezoning, dated December 2011, identifies DNL 65 dB as the outdoor noise goal for residential outdoor use spaces.

Pleasanton Municipal Code

Section 9.04.030 of the Pleasanton Municipal Code limits noise levels from mechanical equipment such as air-conditioners to 60 dB at residential property lines. Section 9.04.100 limits construction noise to the levels indicated in the Construction Noise section below.

California Building Code (CBC)

The California Building Code limits indoor noise from outdoor sources to DNL 45 dB in habitable rooms of attached housing.⁴ Projects exposed to an outdoor DNL greater than 60 dB require an acoustical analysis during the design phase showing that the proposed design will limit outdoor noise to the prescribed allowable interior level. Additionally, if windows must be closed to meet the interior standard, “the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment.”

⁴ 2010 California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 12, Section 1207: Sound Transmission.

NOISE ENVIRONMENT

Environmental noise at the site is primarily from vehicle traffic on I-680. To quantify the existing noise environment, two long-term monitors each continuously measured noise levels at the site between 13 and 15 January 2010, between 6 and 8 July 2011, and between 5 and 7 November 2012. In addition, short-term "spot" measurements were conducted and compared with corresponding time periods of the long-term monitors to determine how noise levels vary at different locations on-site and at different elevations. Table 2 summarizes existing noise levels at the site. Figure 1, attached, shows approximate measurement locations.

Table 2: Existing Noise Environment

Site	Location	Date / Time	DNL
LT-1	I-680 Monitor Approximately 155' NE of I-680 centerline, 12' above ground	January 2010 July 2011 and November 2012 ⁵	74 dB
LT-2 and LT-3	Valley Avenue Monitor Approximately 12' SW of from near lane centerline, 12' above ground		62 to 67 dB
ST-1	I-680 Spot Measurement Approximately 155' NE of I-680 centerline, 10' / 40' above ground	15:45 to 16:00 15 Jan 2010	72 / 75 dB

The Circulation Element of the Pleasanton General Plan 2025 indicates that peak-hour traffic volumes along I-680 are expected to increase by up to 14 percent in the year 2025. This corresponds with approximately a 1-decibel increase in environmental noise. The estimated future noise level at the setback of future homes along I-680, based on this increase in future traffic, is shown in Figure 1, attached.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

As indicated in Figure 1 attached, estimated future noise levels range from approximately DNL 60 to 75 dB across the site, and DNL 76 dB along the pedestrian / bike trail. This falls into the *conditionally acceptable* category for land use compatibility. The following is based on the preliminary floor plans and elevations dated 10 January 2013.

1. The project will incorporate sound-rated elements into the building shell to reduce environmental noise to DNL 45 dB or lower indoors.
 - Apartments - To provide an estimate of the extent of mitigation that may be needed, preliminary estimates assume a 12-foot by 14-foot room with approximately one-third of one or two exterior facades consisting of windows, and exterior walls consisting of 3-coat stucco over wood sheeting, insulation in stud cavities, and one layer of gypsum board on the interior (two layers on the I-680 façade). Based on these assumptions, preliminary estimates suggest that windows in rooms along I-680 will need to be in the range of STC 35 to 39, and windows in rooms perpendicular to I-680 will need to be in the range of STC 32 to 36. On the façade opposite the freeway, and in the shielded courtyards, needed sound insulation ratings are expected to be STC 30 or lower.
 - Detached Houses – Based on the preliminary site and floor plans provided, initial estimates suggest that windows and doors with sound insulation ratings up to STC 36 will be needed in the homes closest to I-680, and that STC ratings will decrease at houses located farther from the roadway and where they are shielded by barriers or other buildings.

⁵ The adjacent Safeway and CVS stores appeared to be operational and open during the November 2012 measurements.

- Sound insulation will need to be determined during the design phase, when floor plans and final grading plans are known, and should include treatment for roof vents and other penetrations.
- 2. Window and door sound insulation ratings must be for the complete assemblies, including frames and operable sashes. Sound insulation ratings should be from tests conducted by an NVLAP accredited laboratory. For reference, standard dual-pane construction-grade windows and sliding glass doors have sound insulation ratings in the range of STC 26 to 28. Sound insulation ratings of up to STC 36 can typically be achieved using high quality insulated windows with glazing selected to meet the required ratings. Sound insulation ratings between STC 36 and 39 can be achieved by some specialty window manufacturers by using 1-inch or 1¼-inch glazing sections. Ratings above STC 39 typically require dual sash or "four track" windows.
- 3. Since windows of the apartment units will need to be closed to meet the interior noise criterion, the design will include "... a ventilation or air-conditioning system to provide a habitable interior environment." This will be coordinated with the project mechanical engineer so as not to compromise sound insulation of the exterior assemblies.
- 4. Noise levels in outdoor spaces will vary, depending on the location and orientation on site. The site plan shows the community park and pool in the center of the site, which will be mostly shielded from I-680 by the apartment buildings. As shown in Figure 1, the design will include a 16-foot tall combination earthen berm (8-foot) and noise barrier (8-foot) in the southern portion of the site, and 8-foot tall noise barriers at selected yards of detached houses. Following are initial comments that assume the site grade will not change significantly in the future.
 - Apartments – As shown in the preliminary site plan, the combined distance and shielding from the proposed apartment buildings will reduce estimated future traffic noise in the community park and pool area to approximately DNL 65 dB or lower. This is consistent with the City's goal for this space.
 - Detached Houses –
 - o At the setback of the proposed houses nearest to I-680, estimated future un-shielded traffic noise (at the second and third stories), is approximately DNL 73 dB. The planned 16-foot tall earthen berm and noise barrier, and noise barriers at detached houses, will reduce traffic noise to approximately DNL 65 dB and below in shielded yards at-grade.
 - o Along Valley Avenue, it is assumed that homes will front the roadway with side or rear yards. Shielding from the proposed homes will reduce estimated traffic noise to between approximately DNL 60 and 65 dB in these yards.
 - Pedestrian / Bike Trail – Estimated future traffic noise along the pedestrian / bike trail is approximately DNL 76 dB.
 - Effective noise barriers must be solid from bottom to top with no cracks or gaps, and must have a minimum surface density of approximately three pounds per square foot. Barriers may be constructed of a variety of materials including earthen berms, CMU, and plaster walls. Options include a combination of more than one material, such as a CMU wall atop an earthen berm.
- 5. The northern portion of the site is located adjacent to commercial businesses which include a Safeway loading dock and CVS drive-through pharmacy. The north westernmost apartment building will be located approximately 65 feet from the nearest drive isle and 145 feet from Safeway's loading dock. The nearest homes to CVS's drive-through will be approximately 150 feet away. The businesses are constrained by conditions of approval included in PUD-02-07M, dated 19 October 2010, which includes the following provisions for loading/off-loading activities and drive through activities.
 - Safeway delivery/loading/unloading hours are limited to between 6:00 AM and 12:00 PM (midnight)
 - CVS drive-through pharmacy activity is limited to pharmaceutical purchases only
 - Parking lot sweeping and garbage pick-up is limited to between 6:00 AM and 10:00 PM
 - Delivery trucks and vendors shall access the site via Bernal AvenueThe adjacency of the site to the retail space to the north should be disclosed to potential residents,

and they should expect to hear some noise from commercial activity, including Safeway's loading docks.

TRAFFIC NOISE ASSOCIATED WITH THE PROJECT

Project-generated traffic volumes are provided in a letter titled Trip Generation Analysis for Residential Development of Bernal Property, dated 8 November 2012, by Hexagon Transportation Consultants, Inc. The letter indicates that traffic volumes associated with the project will be less than both the previously planned and approved office project, and the recently re-designated residential use for the site. Corresponding noise levels from project-generated traffic will be less at off-site residences than they would have been with either of those projects. Further, based on the peak-hour traffic volumes included in the letter, and noise levels measure at the site, estimated traffic noise from vehicles associated with the project will increase environmental noise levels (DNL) at residence across Valley Avenue from the site by 2-decibels or less. This is generally considered a less-than-significant increase.

MECHANICAL EQUIPMENT NOISE ASSOCIATED WITH THE PROJECT

Stationary noise sources associated with the project may consist of residential air-conditioning units. Units should be selected and located to meet the City's Municipal Code limit of 60 dB at adjacent residential property lines. Mitigation for these types of sources generally consists of selecting quiet units and locating far from property lines. Details should be determined during the design phase.

CONSTRUCTION NOISE

The project shall incorporate the following guidelines to reduce the potential impact of construction noise. These guidelines are taken from Noise Mitigation Measure 4.J-1 from the Final Supplemental EIR, General Plan Amendment and Rezonings report dated December 2011.

- Comply with the applicable construction noise exposure criteria established in the Pleasanton Municipal Code, Section 9.04.100.
 - Notwithstanding any other provision of this chapter, between the hours of 8:00 a.m. and 8:00 p.m. daily, except Sunday and holidays, when the exemption shall apply between 10:00 a.m. and 6:00 p.m., construction, alteration or repair activities which are authorized by valid city permit shall be allowed if they meet at least one of the following noise limitations.
 - No individual piece of equipment shall produce a noise level exceeding 83 dB at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible; or
 - The noise level at any point outside of the property plane of the project shall not exceed 86 dB.
- Locate stationary construction equipment as far from adjacent occupied building as possible.
- Select routes for movement of construction-related vehicles and equipment so that noise-sensitive areas, including residences, and outdoor recreation areas, are avoided as much as possible. Include these routes in materials submitted to the City of Pleasanton for approval prior to the issuance of building permits.
- All site improvements and construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. In addition, no construction shall be allowed on State and federal holidays. If complaints are received regarding the Saturday construction hours, the Community Development Director may modify or revoke the Saturday construction hours. The Community Development Director may allow earlier "start-times" for specific construction activities (e.g., concrete-foundation/floor pouring). If it can be demonstrated to the satisfaction of the Community

Development Director that the construction and construction traffic noise will not affect nearby residents.

- All construction equipment must meet DMV noise standards and shall be equipped with muffling devices.
- Designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise-sensitive areas.

*

*

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● INDICATES APPROXIMATE NOISE MEASUREMENT LOCATION
 NOTE: DRAWING PROVIDED BY OTHERS; NO SCALE

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 CHARLES M. SALTER ASSOCIATES, INC.
 FOR ACOUSTICAL DESIGN INFORMATION ONLY

THE COMMONS AT GATEWAY SITE PLAN INDICATING ESTIMATED FUTURE NOISE ENVIRONMENT

FIGURE 1

CSA PROJECT NO. 12-0519
 10 JUNE 2013
 JMR

Appendix E: Transportation Assessment

TECHNICAL MEMORANDUM

Date: July 3, 2013
To: Mike Tassano, City of Pleasanton
From: Kathrin Tellez and Sarah Nadiranto
Subject: **Transportation Assessment for Commons at Gateway**

WC11-2878.02

Fehr & Peers conducted a transportation assessment for the proposed Commons at Gateway (Project) in Pleasanton, California. This study evaluates peak-hour intersection and driveway operations under existing and future conditions. Recommendations to improve site access and circulation are provided. The following presents our project understanding, analysis methods, analysis results, site access and circulation, and conclusions and recommendations.

PROJECT DESCRIPTION

The Commons at Gateway is located on a 26.72 acre vacant parcel, east of Interstate 680 (I-680) and south of Bernal Avenue. The site is bound by a vacant parcel to the south, Interstate 680 to the west, the Pleasanton Gateway Shopping Center to the north, and Valley Avenue to the east, as shown on **Figure 1**.

The Project proposes to construct 307 residential units, including 210 apartment units and 97 single-family homes. Each apartment would have a 1-car private garage with additional driveway and on-street parking. The single family homes would be two- and three-story homes each with a private two-car garage. Some homes would also have driveway parking. On-street parking would also be available on the east side of Valley Avenue. The development would be oriented around a 1.3 acre community park that includes a business center, conference facilities, workout area, resort style swimming pool, media center, and spa. The community park area would also include electric vehicle charging stations. These amenities would be available to all community residents.

Access to the site would be provided by two existing roundabout intersections from Valley Avenue and an internal connection from Bernal Avenue through the Pleasanton Gateway



shopping center to the proposed Project. Along Valley Avenue, northern access would be provided at Valley Avenue at Gateway Commons intersection and southern access would be provided at the Valley Avenue and East Gate Way intersection. From Bernal Avenue, access would be provided from a signalized intersection opposite Koll Center Drive and an internal drive aisle through the retail center. A conceptual Project site plan is shown on **Figure 2**.

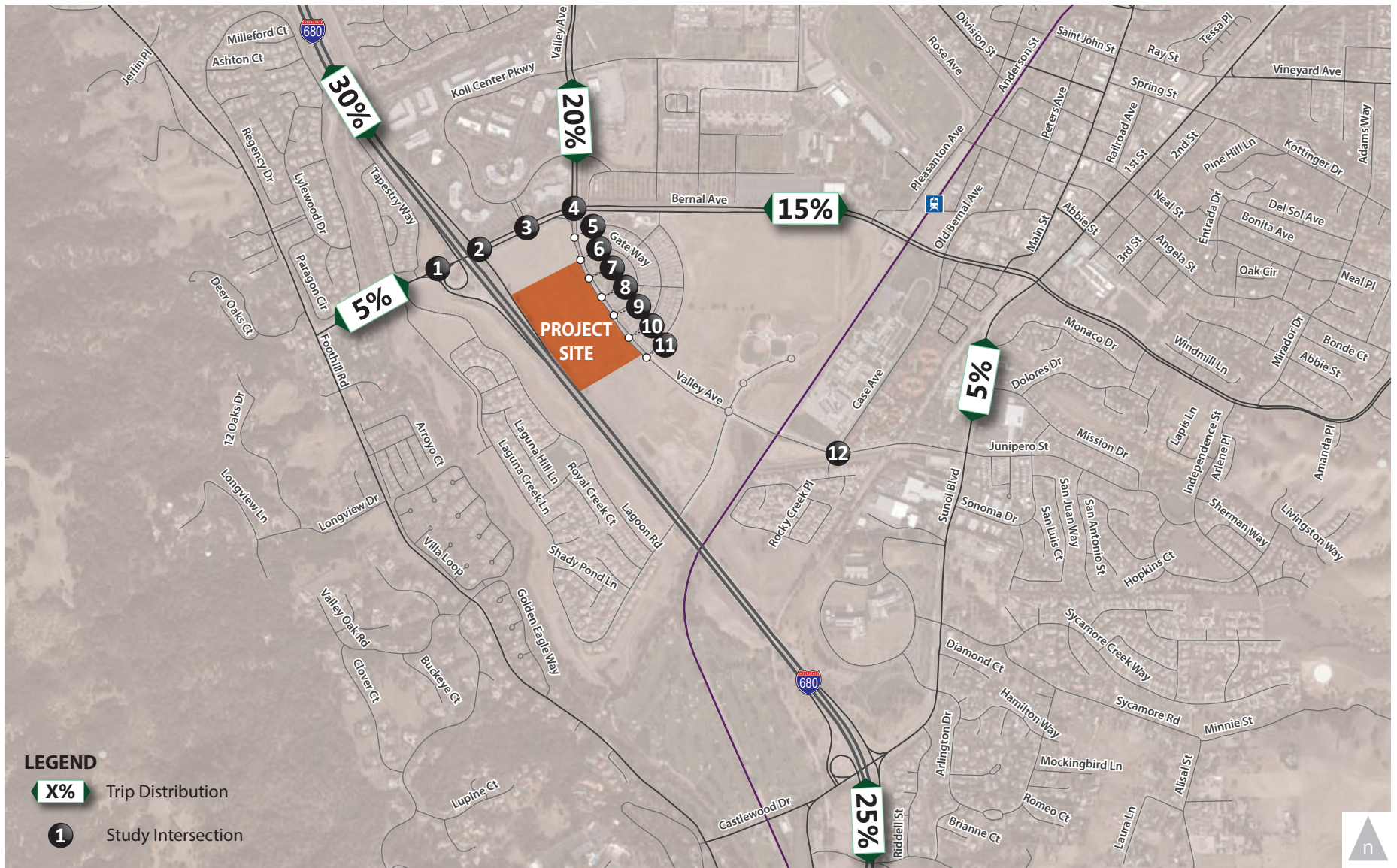
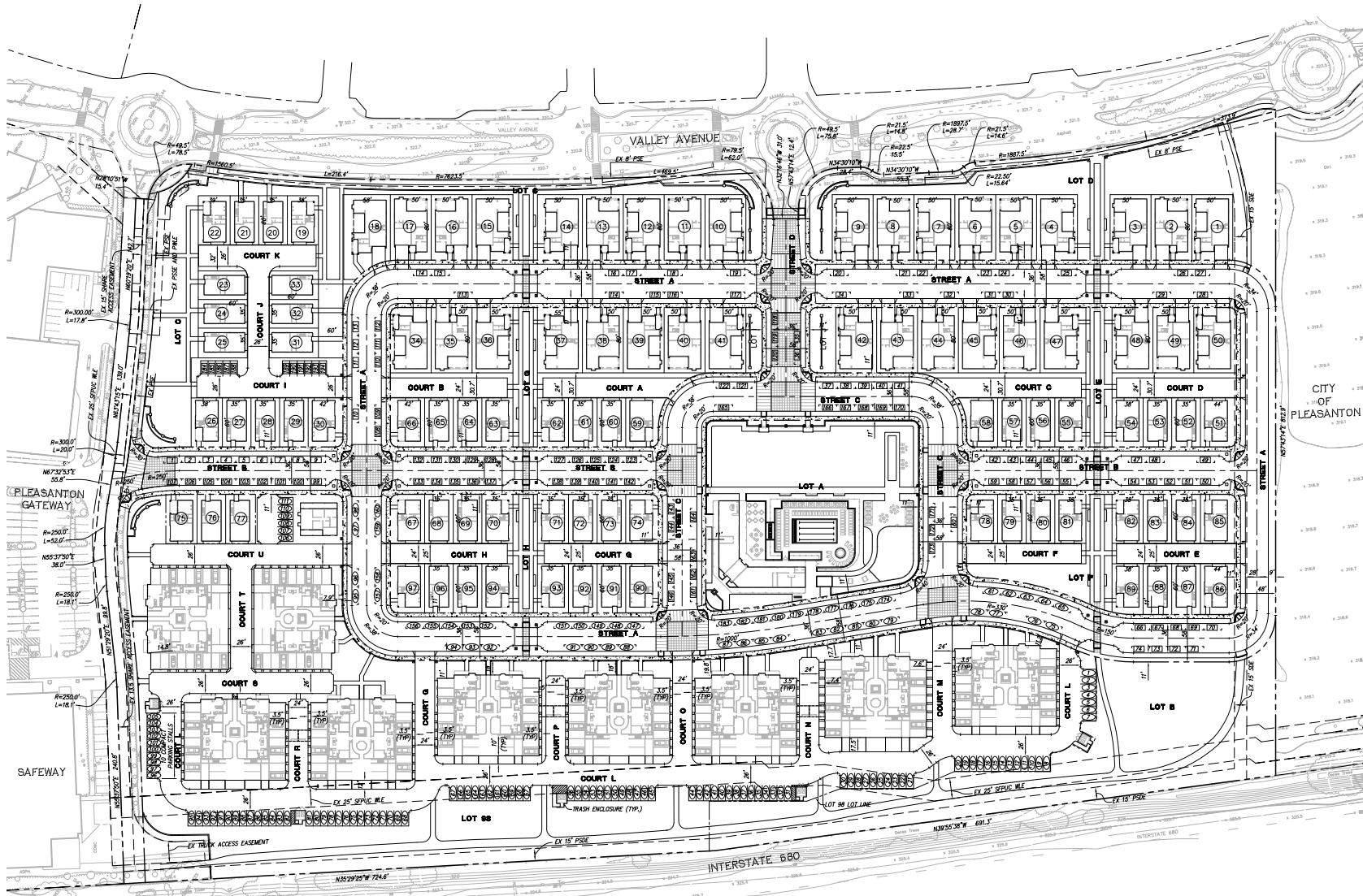


Figure 1.

Study Area and Trip Distribution

WC11-2878.02_1_StudyArea



Source: Ruggeri-Jensen-Azar

Figure 2.

Conceptual Project Site Plan

WC11-2878.02_2_SitePlan





ANALYSIS METHODS

Study Area and Analysis Scenarios

The following intersections were included in this assessment as they provide access to the Project site and are likely to be affected by the Project:

1. Interstate 680 Southbound Ramps at Bernal Avenue
2. Interstate 680 Northbound Ramps at Bernal Avenue
3. Koll Center Drive at Bernal Avenue
4. Valley Avenue at Bernal Avenue
5. Valley Avenue at Gateway Right-in/right-out Driveway
6. Valley Avenue at Gateway Commons
7. Valley Avenue at Wild Rose Place North
8. Valley Avenue at Wild Rose Place South
9. Valley Avenue at East Gate Way
10. Valley Avenue at Whispering Oaks Way
11. Valley Avenue at Oak Vista Way
12. Valley Avenue at Case Avenue

Study intersection operations were evaluated during the peak hour of traffic for weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods for the following scenarios:

- **Existing** – Existing conditions based on recent traffic counts.
- **Existing Plus Project** – Existing condition plus Project-related traffic.
- **Existing Plus Approved Projects** – Near-term conditions, which consider existing traffic plus anticipated traffic from approved developments that could affect the volumes at the study intersections.
- **Existing Plus Approved Projects Plus Project** – Near-term conditions plus Project-related traffic.
- **Cumulative Without Project** – Future forecast conditions, which considers local and regional traffic growth.
- **Cumulative With Project** – Future forecast conditions plus Project-related traffic.



Existing Conditions

This section describes transportation facilities in the Project study area, including the surrounding roadway network, transit, pedestrian, and bicycle facilities in the Project site vicinity.

Regional access to the Project site is provided by **Interstate 680 (I-680)**. I-680 is a north-south freeway that is near the western boundary of the City of Pleasanton. I-680 extends from the City of Fairfield in the north to the City of San Jose in the south. In Pleasanton, three travel lanes per direction are provided and the facility carries approximately 122,000 vehicles per day, based on information provided by Caltrans. Direct access to the study area is provided by a full interchange at Bernal Avenue, while secondary access is provided at Sunol Boulevard.

Bernal Avenue is an east-west roadway in the Project vicinity. East of downtown Pleasanton, the roadway continues north-south to Stanley Boulevard where it continues as Valley Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. The number of travel lanes on Bernal Avenue varies between two and six and Class II bike lanes are provided on the north side of the roadway from Valley Avenue to Pleasanton Avenue and on the south side of the roadway from Oak Vista Way to Pleasanton Avenue. The bike lanes continue east after Old Bernal Avenue. Parking is not permitted along Bernal Avenue. Sidewalks are provided on both sides of the roadway near the Project. In the Project vicinity, the posted speed limit of Bernal Avenue ranges from 35 to 45 miles per hour (mph).

Valley Avenue is a two- to four-lane roadway that forms a ring road with Bernal Avenue around downtown Pleasanton. Near the Project, Valley Avenue continues south of Bernal Avenue to Sunol Boulevard, forming the eastern boundary of the Project. Valley Avenue provides two lanes of travel in both directions north of Bernal Avenue and one lane of travel in both directions south of Bernal Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. Between Bernal Avenue in the north and Case Avenue in the south, there are four, one-lane roundabouts along Valley Avenue. Parking pockets are provided on the east side of Valley Avenue. Parking is not permitted on the west side of Valley Avenue along the Project frontage. Class II bike lanes are provided south of Bernal Avenue. A Class III bike route is provided north of Bernal Avenue. Sidewalks are provided on the west side of the roadway north of Bernal Avenue and on the east side of the roadway south of Bernal Avenue. The posted speed limit is 35 miles per hour along the roadway and 15 miles per hour at the roundabouts.



Case Avenue is a two-lane roadway, running north-south between Valley Avenue and Bernal Avenue. The roadway provides access to Hearst Elementary School and Pleasanton Middle School, both located one mile south of the Project. Two-way, left-turn lanes are provided along Case Avenue. Dedicated left-turn lanes are provided at the signalized intersections and a right-turn pocket is provided at the entrance to the middle school. Class II bike lanes and sidewalks are provided along both sides of the street. On-street parking is permitted along most of the roadway. The posted speed limit is 25 miles per hour.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Pedestrian facilities are provided on public roadways adjacent to the site. In the immediate Project vicinity, pedestrian crosswalks, push buttons and signals are provided at the signalized intersections on Bernal Avenue. At the roundabouts, crosswalks are provided along the northern and southern legs. Curb ramps are provided along the east and west legs of existing roundabouts to facilitate street crossings, but crosswalks are not striped. Sidewalks are not currently provided along the Project frontage Valley Avenue, but would be constructed with the project. Pedestrian counts at the intersections on Valley Avenue indicate that the most pedestrian activity occurs at the Valley Avenue at Oak Vista Way intersection with 23 pedestrians crossing Oak Vista Way during the morning peak hour and 8 pedestrian crossings during the afternoon peak hour.

Bicycle facilities in Pleasanton include the following:

- *Bike paths (Class I)* – Paved trails that are separated from roadways. There are also several unpaved off-street trails within Pleasanton. These facilities are typically shared with pedestrians, although bicycles must yield to pedestrians.
- *Bike lanes (Class II)* – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs. There may or may not be parking allowed on the roadway
- *Bike routes (Class III)* – Designated roadways for bicycle use by signs only; may or may not include additional pavement width for cyclists.
- *Side Paths* – An off-street facility located adjacent to a roadway that is shared with pedestrians. These paths may be paved or unpaved.

A paved trail encircles the west and north sides of the Koll Center. A trail that parallels I-680 is also provided, with access from Bernal Avenue, west of Meadowlark Drive. Class II bike lanes are provided on Valley Avenue south of Bernal Avenue, westbound Bernal Avenue east of Valley



Avenue, and Laguna Creek Lane between Valley Avenue and Lagoon Road. A side path is provided on the south side of Bernal Avenue east of Valley for pedestrians and bicyclists. A Class III bike route is provided along Valley Avenue north of Bernal Avenue. According to the 2010 Bicycle and Pedestrian Master Plan, Class II bike lanes are proposed along Valley Avenue north of Bernal Avenue.

Existing Transit Service

Transit service in the area is provided by Wheels, Pleasanton Paratransit, Altamont Commuter Express, Amtrak, and Bay Area Rapid Transit (BART). Wheels provides fixed-route and paratransit service throughout the Tri-Valley and connections to other transit service providers. Several Wheels bus routes serve the Project as described in **Table 1**.

The Altamont Commuter Express (ACE) Station is located about one mile (20 minute walk, less than 5 minute bike ride, or a short bus ride) from the Project site, as shown on Figure 2. ACE provides regional transportation connections from Stockton, through Pleasanton, down to San Jose and Santa Clara. Westbound service is provided for the morning commute with eastbound service for the afternoon and the evening commute. Train headways are approximately 60 minutes during both time periods.

Two Bay Area Rapid Transit (BART) stations are located in the City of Pleasanton. West Dublin/Pleasanton BART station is located on Stoneridge Mall Road about 4 miles (8 minute drive) from the Project site. Dublin/Pleasanton BART Station is located on Owens Drive about six miles (10 minute drive) from the Project site. BART provides regional transportation connections to much of the Bay Area and the Dublin/Pleasanton line provides direct access to San Francisco, with stops in Hayward and Oakland where connections may be made to other lines. BART train headways are 15-20 minutes from approximately 5:00 AM to 12:00 AM.



**TABLE 1
 WHEELS BUS ROUTES**

Lines	Route	Nearest Stop	Weekday		Weekend	
			Hours	Headway	Hours	Headway
Rapid, Local, and Express Routes						
8	E. BART to Downtown Pleasanton to E. BART	Valley Ave at Wild Rose Place	6:00 AM to 7:00 PM	60 minutes	8:00 AM to 9:00 PM (Saturdays) 8:30 AM to 2:00 PM (Sundays)	60 minutes (Saturday) 30 minutes (Sunday)
53	Pleasanton ACE Station to W. BART	Pleasanton ACE Station	5:30 AM to 8:45 AM; 4:00 PM to 7:30 PM	30 minutes to 75 minutes	Weekend Service not provided	
54	Pleasanton ACE Station to Hacienda Business Park to BART	Koll Center Parkway at Valley Avenue	5:30 AM to 9:30 AM; 3:45 PM to 6:30 PM	60 minutes to 75 minutes	Weekend Service not provided	
School Routes						
602	Del Prado Park to Foothill High School	Koll Center Parkway at Valley Avenue	7:00 AM to 7:40 AM; 3:00 PM to 3:25 PM	N/A ¹	Weekend Service not provided	

Notes:

1. One bus provided in the AM. Two buses are provided during the PM; however both busses are scheduled to leave at the same time.

Source: Wheels, Livermore Amador Valley Transit Authority and Fehr & Peers, January 2013.

Existing Roadway Operations

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection vehicle turning movement counts were conducted in March 2013 for the driveways that serve the Project site, including shared driveways that provide access to the Gateway shopping center. Traffic counts were collected after the Safeway gas station was open and operational for a few weeks and schools were in normal session. Vehicle counts for the signalized intersection were obtained from the City of Pleasanton, based on Spring 2013 data. For the study intersections, the single hour with the highest traffic volumes during the count periods was identified. Due to the different data collection sources, imbalances between the existing intersection volume counts



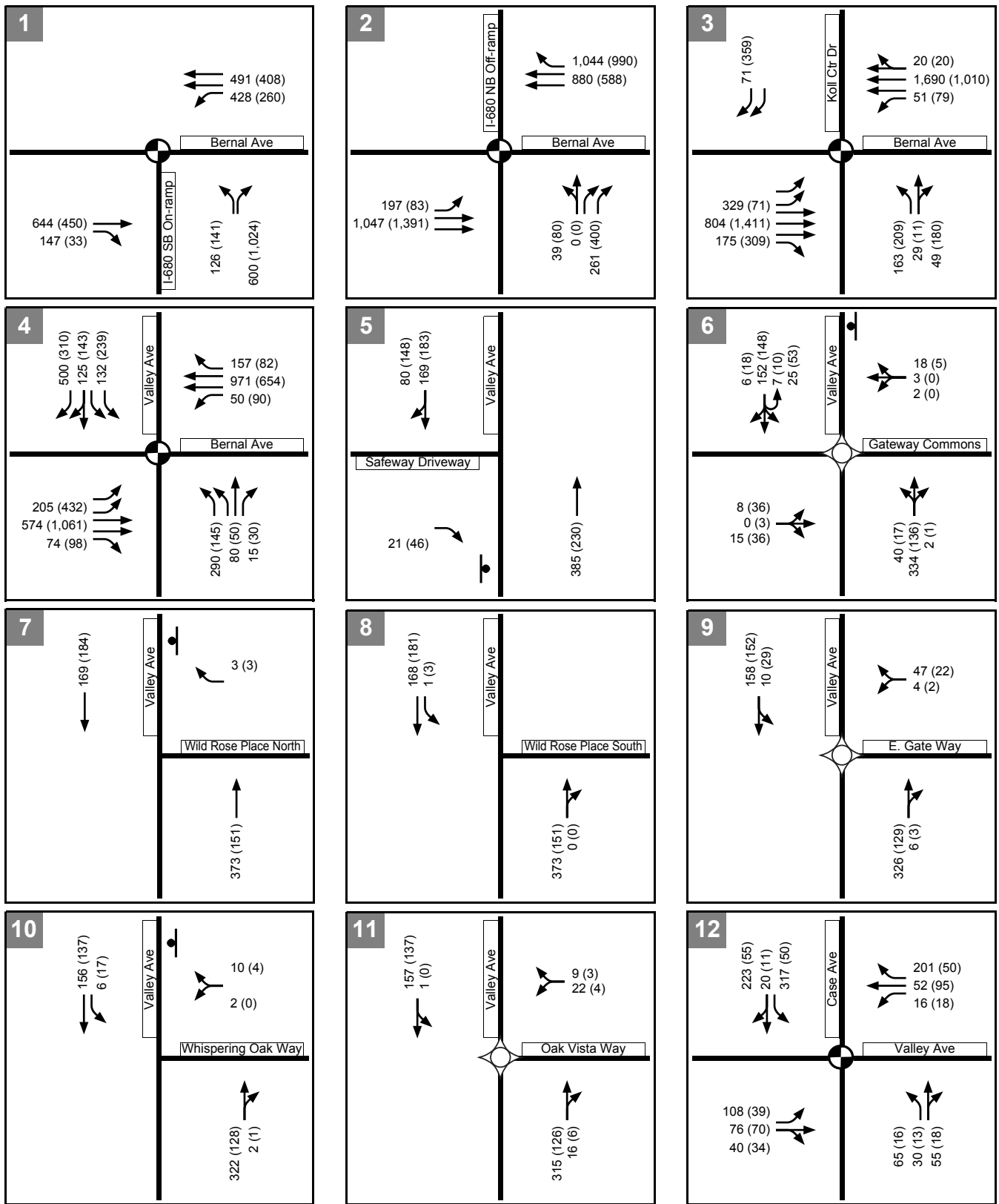
were observed. Volume balancing was completed for intersections along Bernal Avenue and Valley Avenue to reduce this imbalance. The peak hour volumes are presented on **Figure 3** along with the existing lane configuration and traffic control. The existing driveway traffic count data are provided in the Technical Appendix.

The operations of roadway facilities are described with the term “level of service” (LOS) in this study. **Appendix A** describes the LOS analysis methods. The City of Pleasanton has set LOS D as the level of acceptable delay at most major intersections, which are defined as intersections of two or more Arterials or one Arterial and one Collector Street. A number of intersections, referred to as Gateway and Exempted Downtown intersections, are exempt from the LOS D policy. These intersections may have a level of service below the LOS D standard if no reasonable mitigation exists or if the necessary mitigation is contrary to other goals and policies of the City. For Gateway intersections, additional vehicle capacity could encourage additional vehicle traffic that should remain on the regional transportation system and could also degrade the pedestrian experience and visual character of the intersection. Gateway intersections evaluated in this assessment include:

- Bernal Avenue at I-680 Northbound Ramp
- Bernal Avenue at I-680 Southbound Ramp
- Valley Avenue at Bernal Avenue

Although the City strives to maintain access to the roadway system from driveways and local streets, there is not a defined level of service standard for those locations.

Results of the existing conditions analysis are presented in **Table 3**, which shows that the intersections that provide access to the Project site operate at LOS D or better during both peak hours. Results of the queue assessment, presented in **Table 4** and **Table 5**, indicate that vehicle queues periodically (typically one to two times during either the AM or PM peak hours) spillback from the available storage for some travel movements.



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes Signalized Intersection Stop Sign Roundabout

Figure 3.

Existing Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



PROJECT TRAFFIC ESTIMATES

To estimate conditions with the Project, vehicle trips expected to be added to the roadway system were combined with existing traffic volumes through the following process:

1. **Trip Generation** – The *amount* of vehicle traffic entering and exiting the Project site was estimated.
2. **Trip Distribution** – The *direction* trips use to approach and depart the site was projected.
3. **Trip Assignment** – Trips were then *assigned* to specific roadway segments and intersection turning movements.

Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates are created on a daily basis and for the peak one-hour periods during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. The Project trip generation was estimated using rates from the Institute of Transportation Engineers *Trip Generation* (9th Edition) land use numbers 220 (apartment) and 210 (single-family detached housing). The resulting trip generation estimates are shown in **Table 2**.

The Project is located in close proximity bound by Gateway Center, a retail center anchored by a Safeway supermarket, pharmacy, bank, and other small shops and restaurants. On the north side of Bernal Avenue, approximately $\frac{1}{4}$ of a mile from the center of the Project site, is the Koll Business Center with over one million square feet of office development. Due to the close proximity of the retail plaza and employment center, it is anticipated that some of the future site residents might chose to live in the development due to the proximity to their work place and some may choose to walk to the retail center as most of their daily needs can be met by establishments within a short walking distance.

To estimate the potential level of interaction between the Project and adjacent sites, we used a mixed-use trip (MXD) generation model to estimate the expected interaction between the various uses in the immediate vicinity of the Project site. The MXD model suggests that during the morning peak hour, approximately 5 percent of the trips generated by the Project would be to one of the adjacent destinations, with up to 10 percent of the trips to an adjacent destination during the PM peak hour and on a daily basis.



Considering the potential for non-motorized trips to adjacent uses, the Project is expected to generate approximately 2,180 daily vehicle trips, including 177 AM peak hour vehicle trips and 211 PM peak hour vehicle trips.

**TABLE 2
 PROJECT TRIP GENERATION ESTIMATES**

Land Use	ITE Code	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Apartments	220 ¹	210	1,400	21	86	107	86	47	133
Single Family Detached Housing	210 ²	97	1,020	20	59	79	64	38	102
<i>Total</i>			<i>2,420</i>	<i>41</i>	<i>145</i>	<i>186</i>	<i>150</i>	<i>85</i>	<i>235</i>
Walk/Bike Trips to Adjacent Development ³			-240	-2	-7	-9	-15	-9	-24
Net Vehicle Trips			2,180	39	138	177	135	76	211

Notes:

1. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations Apartments (Land Use Code 220):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$; Enter = 20%; Exit = 80%

PM Peak Hour: $T = 0.55(X) + 17.65$; Enter = 65%; Exit = 35%

Where T = trips generated, X = Dwelling Units

2. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations for Single Family Detached Housing (Land Use Code 210):

Daily: $\ln(T) = 0.92\ln(X) + 2.72$

AM Peak Hour: $T = 0.70(X) + 9.74$; Enter = 25%; Exit = 75%

PM Peak Hour: $\ln(T) = 0.90\ln(X) + 0.51$; Enter = 63%; Exit = 37%

Where T = trips generated, X = Dwelling Units

3. Walk/bike trips to adjacent retail development and employment center: Daily = 10%; AM = 5%; PM = 10%.

Source: *Trip Generation* (9th Edition), ITE, 2012; Fehr & Peers, April 2013.

Trip Distribution and Assignment

Vehicle trips expected to be generated by the Project were assigned to the roadway system based on existing travel patterns, locations of complementary land uses, Project site driveway location, and location of parking fields within the site. Trip distribution percentages are presented on **Figure 1**. The net new vehicle traffic generated by the Project was then assigned to streets in the



local roadway system for the AM and PM peak hours. The resulting Project trip distribution through for each study intersection is shown on **Figure 4**.

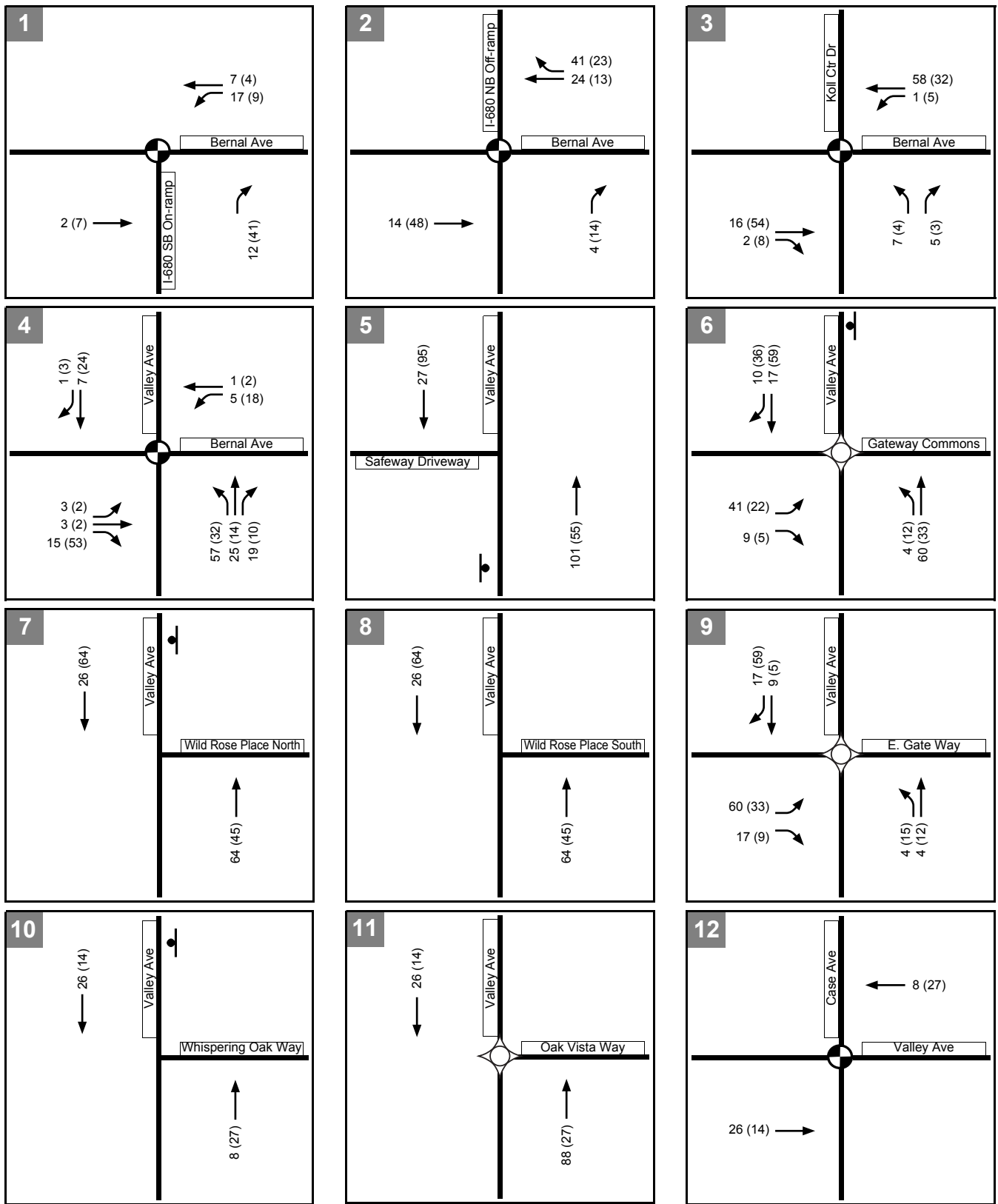
Project intersection volumes were added to existing traffic counts, to show Existing Plus Project traffic conditions. The resulting traffic counts are shown on **Figure 5**.

TRAFFIC FORECASTS

To assess the changes in traffic flow through the City with approved and planned development, the City of Pleasanton Travel Demand model was used to assess citywide vehicular travel changes. For this Project, the near-term and cumulative forecasts developed for the Housing Element Analysis were adjusted to remove traffic forecasts associated with development of the proposed Project on the site. **Figures 6** through **9** present the Near-Term without Project, Near-Term with Project, Cumulative without Project and Cumulative with Project Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control Devices. These forecasts reflect buildout of the adjacent Gateway Center.

ROADWAY NETWORK

No changes to the lane configurations at the study intersections were assumed, except for Project driveways for the Existing and Near-Term analyses. For the cumulative analyses, planned improvements to the I-680 interchange at Bernal Avenue were assumed to be in place. Planned improvements include modifications to the westbound approach at Bernal Avenue at I-680 northbound ramps to widen the on-ramp to permit the conversion of a westbound through lane to a through-right lane and to the westbound approach at the Bernal Avenue at I-680 southbound ramps to provide dual left-turn lanes and one through lane. The lane configurations assumed under each scenario are shown on the volume figures.



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

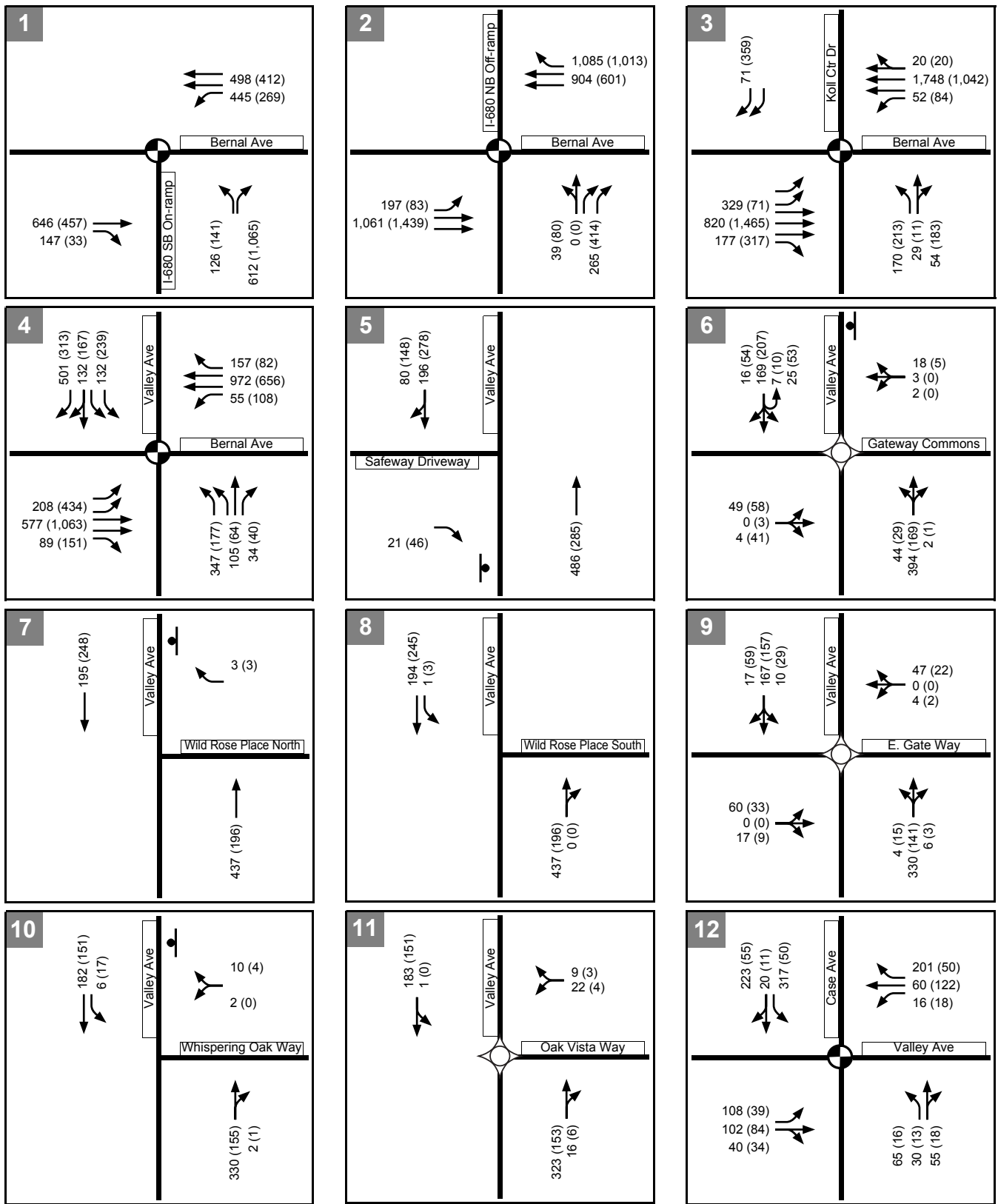
Roundabout

Figure 4.

**Project Peak Hour
Intersection Volumes and Traffic Control**

WC11-2878.02_4_ProjTripVols

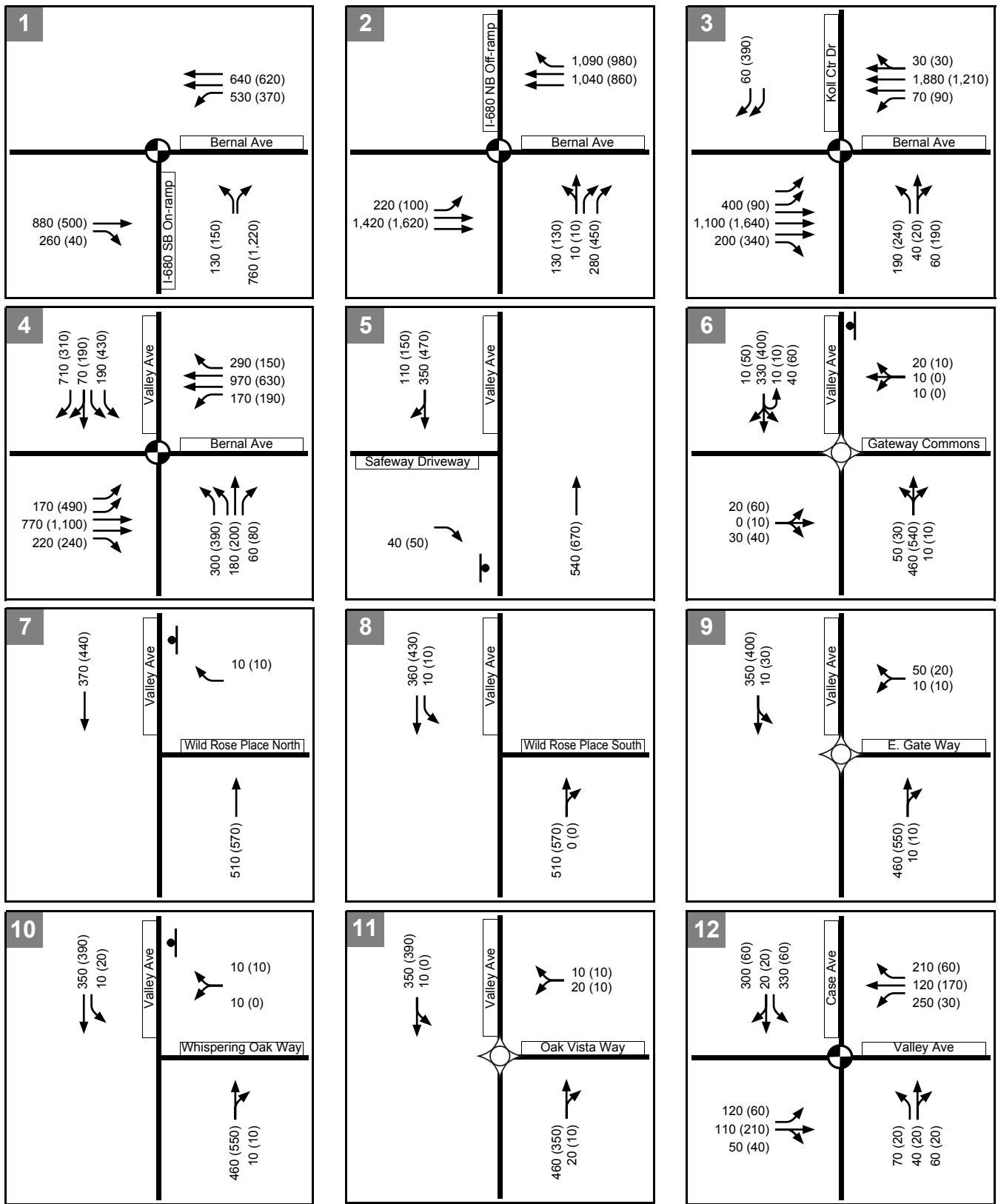




KEY XX (YY) AM (PM) Peak Hour Traffic Volumes
 Signalized Intersection
 Stop Sign
 Roundabout

Figure 5.

Existing Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection
 Stop Sign
 Roundabout

Figure 6.

Near Term No Project Peak Hour

Intersection Volumes, Traffic Control and Lane Configurations

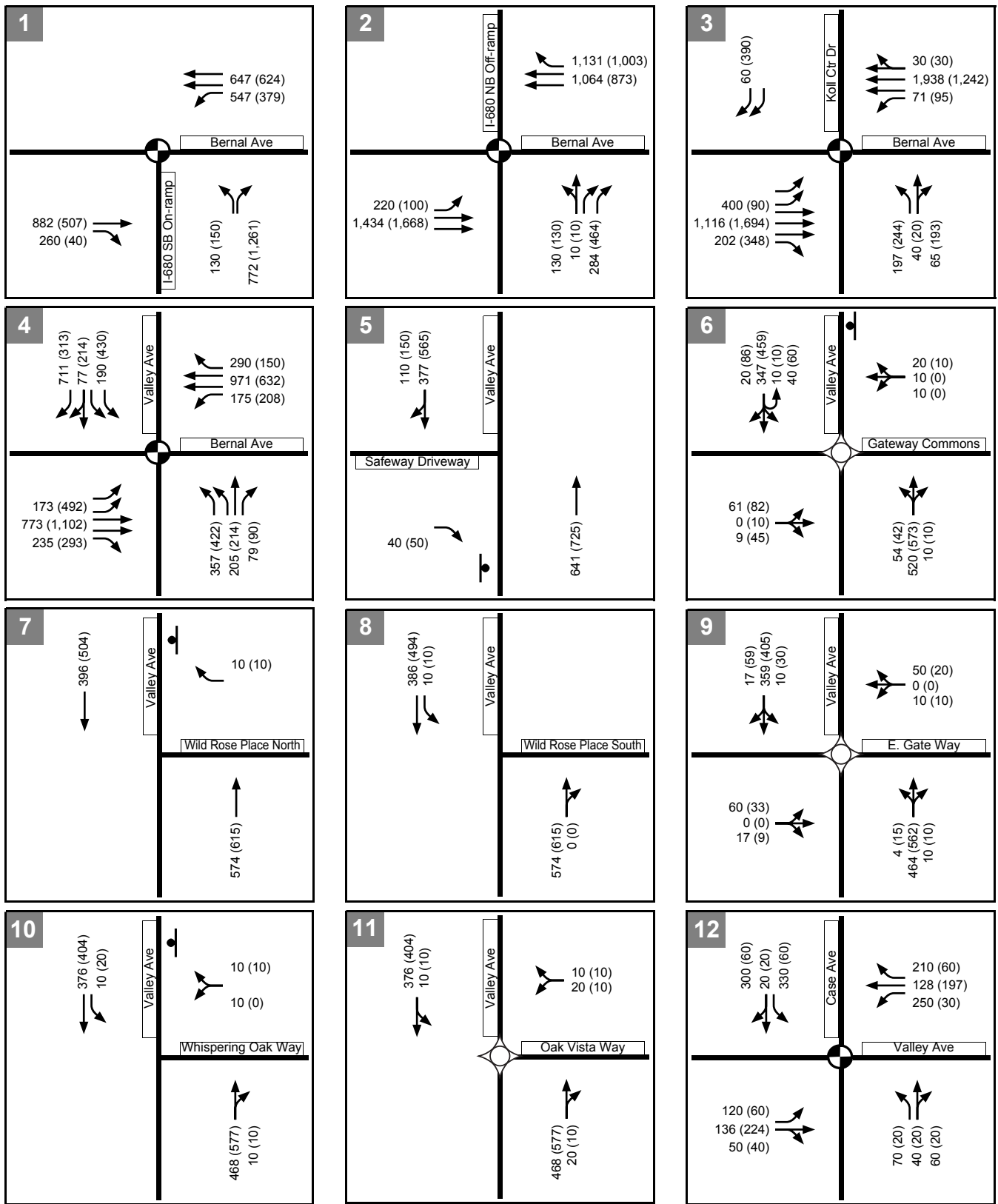
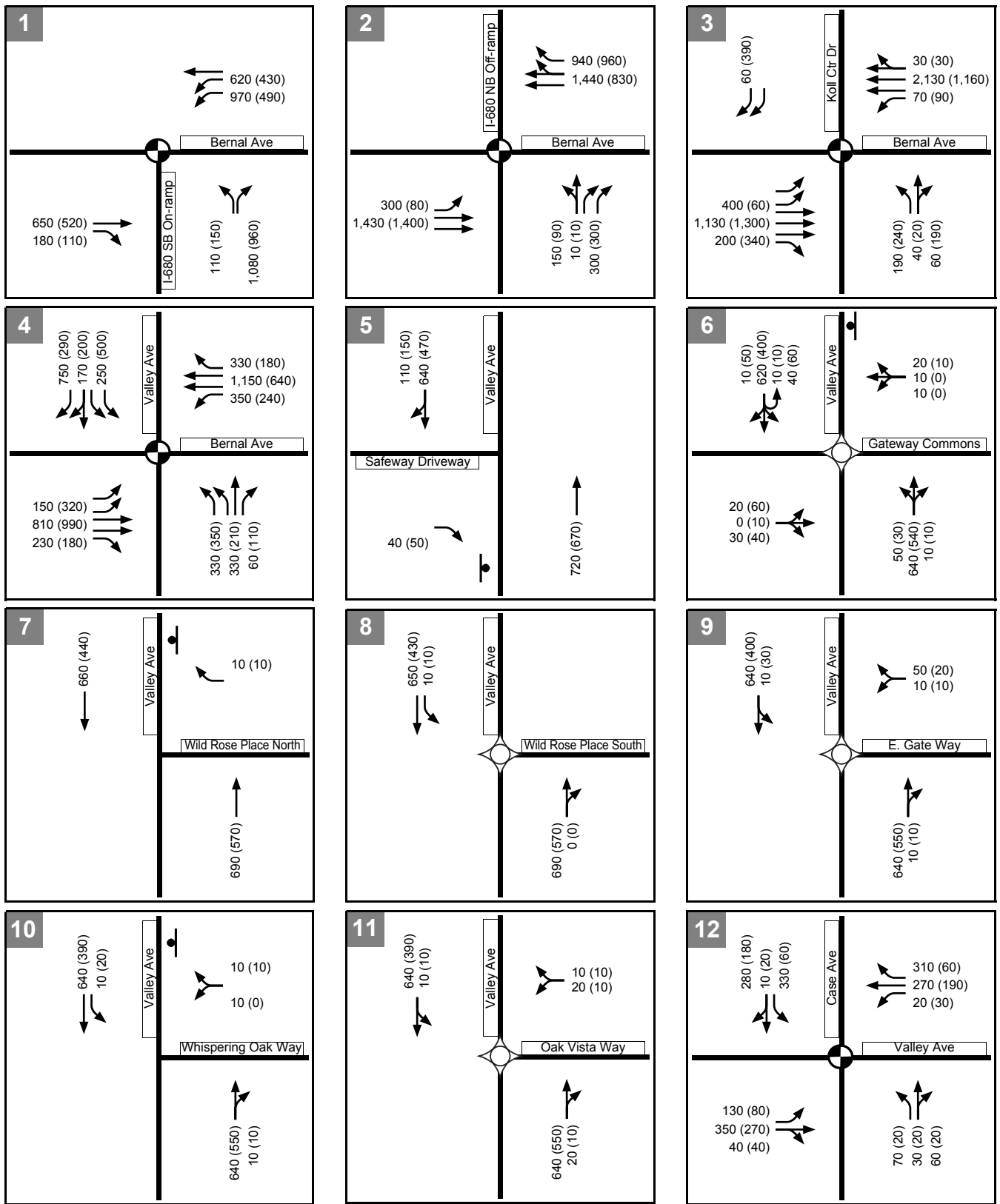


Figure 7. Near Term Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



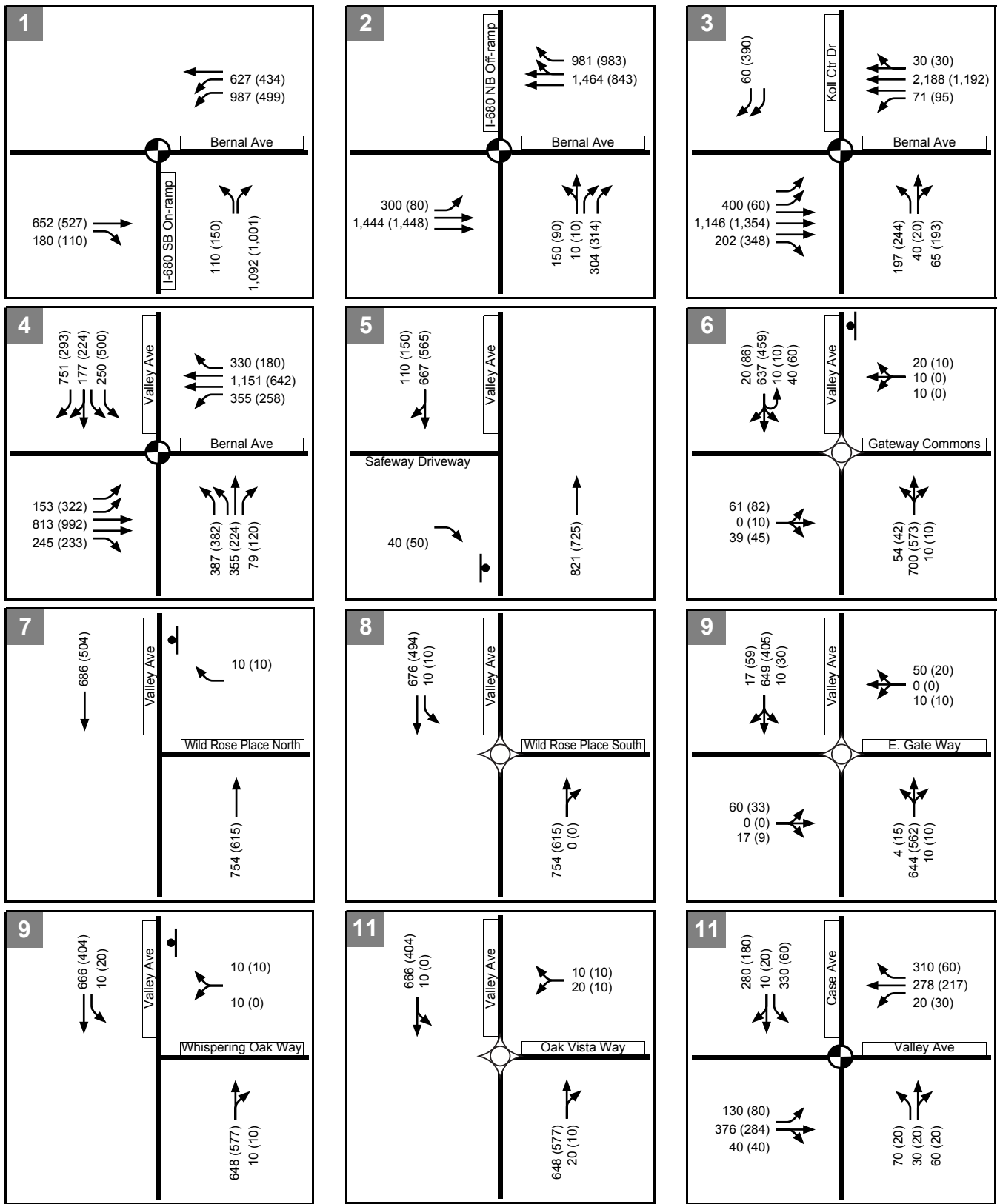
KEY XX (YY) AM (PM) Peak Hour Traffic Volumes Signalized Intersection Stop Sign Roundabout

Figure 8.

Cumulative No Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

WC11-2878.02_8_CumuNPVols





KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection
 Stop Sign
 Roundabout

Figure 9.

Cumulative Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

WC11-2878.02_9_CumuPlusProjVols





ANALYSIS RESULTS

Intersection Operations

Signalized and unsignalized intersections were evaluated using Synchro software, and roundabouts were evaluated using SIDRA software for the weekday AM and PM peak hours for analysis scenarios listed previously, based on the analysis methods outlined in Attachment A. **Table 3** presents level of service (LOS) operations at study intersections for the AM and PM peak hours.

As presented in Table 3, the driveways and intersections that provide access to the site from regional transportation system currently operate at LOS D or better during the morning and evening peak hours. With the addition of project traffic, intersections are expected to continue to operate at LOS D or better.

In the near-term and cumulative conditions, intersections would continue to operate at acceptable service levels during both the morning and evening peak hours with the addition of traffic from the Project.

A typical single-lane roundabout has a capacity of up to 2,000 vehicles per hour or 20,000 vehicles per day. Roundabouts operating below capacity have lower average delay and queue lengths than stop controlled and signalized intersections because all approaches are yield controlled. The yield control permits vehicles to advance through the intersection slowly, thereby allowing for a constant flow of vehicles through the intersection rather than requiring vehicles to come to a complete stop. Roundabouts require traffic on Valley Avenue to slow down approaching the intersection, improving access from the side street without requiring Valley Avenue traffic to come to a complete stop. Based on the peak hour traffic volume forecasts, the expected near-term and cumulative volumes would not exceed capacity of the roundabouts; therefore, the roundabouts are expected to operate at acceptable levels of service through the future as shown in Table 3. Additionally, off-peak delay would be significantly less when conflicting traffic volumes are much lower and vehicles are not required to stop.



**TABLE 3
 PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control ¹	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
1. I-680 Southbound Ramps at Bernal Avenue	Signal	AM	16	B	17	B	49	D	50	D	15	B	15	B
		PM	9	A	9	A	11	B	11	B	10	A	10	A
2. I-680 Northbound Ramps at Bernal Avenue	Signal	AM	17	B	21	C	30	C	36	D	24	C	26	C
		PM	12	B	13	B	15	B	16	B	10	B	11	B
3. Koll Center Drive at Bernal Avenue	Signal	AM	18	B	18	B	21	C	21	C	21	C	21	C
		PM	16	B	17	B	18	B	19	B	18	B	18	B
4. Valley Avenue at Bernal Avenue	Signal	AM	32	C	34	C	33	C	36	D	49	D	53	D
		PM	30	C	32	C	45	D	50	D	44	D	47	D
5. Valley Avenue at Gateway Right-in/Right-out Driveway	SSSC	AM	1 (10)	A (A)	1 (10)	A (A)	1 (12)	A (B)	1 (12)	A (B)	1 (16)	A (C)	1 (17)	A (C)
		PM	1 (10)	A (A)	1 (11)	A (B)	1 (12)	A (B)	1 (14)	A (B)	1 (12)	A (B)	1 (14)	A (B)
6. Valley Avenue at Gateway Commons	Round-about	AM	1	A	1	A	1	A	2	A	2	A	3	A
		PM	1	A	1	A	2	A	2	A	2	A	2	A
7. Valley Avenue at Wild Rose Place (north intersection)	SSSC	AM	1 (11)	A (B)	1 (12)	A (B)	1 (12)	A (B)	1 (13)	A (B)	1 (15)	A (B)	1 (16)	A (C)
		PM	1 (10)	A (A)	1 (9)	A (A)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)



**TABLE 3
 PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control ¹	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
8. Valley Avenue at Wild Rose Place (south intersection)	SSSC	AM	0 (0)	A (A)	0 (0)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
		PM	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
9. Valley Avenue at East Gate Way	Round-about	AM	6	A	6	A	8	A	9	A	14	B	16	C
		PM	5	A	5	A	10	A	11	B	10	A	11	B
10. Valley Avenue at Whispering Oaks Way	SSSC	AM	1 (11)	A (B)	1 (11)	A (B)	1 (16)	A (C)	1 (16)	A (C)	1 (27)	A (D)	1 (28)	A (D)
		PM	1 (9)	A (A)	1 (9)	A (A)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)
11. Valley Avenue at Oak Vista Way	Round-about	AM	6	A	6	A	8	A	9	A	14	B	15	C
		PM	5	A	5	A	10	A	10	A	10	A	11	B
12. Valley Avenue at Case Avenue	Signal	AM	27	C	27	C	31	C	31	C	32	C	33	C
		PM	14	B	14	B	16	B	16	B	16	B	17	B

Notes: **Bold** text indicates unacceptable operations based on City's level of service policy.

1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections, traffic from the major roadway does not stop; Roundabout = Roundabout control
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented as intersection average (worst approach)
3. LOS = Level of Service.

Source: Fehr & Peers, April 2013.



Vehicle Queues

The average and 95th percentile Vehicle queues were evaluated for vehicle movements where the project is expected to have an effect on traffic volumes, including intersections along Bernal Avenue and project Driveway intersections on Valley Avenue at Gateway Commons, and Valley Avenue at East Gate Way, as summarized in **Table 4** for the 50th percentile queue and **Table 5** for the 95th percentile queue. The 50th percentile queue is an estimated value from the analysis software which represents the average queue length during the peak hour. The 95th percentile vehicle queue is an estimated value from the analysis software that represents the 95th highest queue out of 100 calculations. For the signalized intersections along Bernal Avenue, there are approximately 35 queue observation periods per hour based on the typical cycle length, so the 50th percentile queue as shown in Table 4 is expected to occur 15 to 20 times per peak hour, whereas the 95th percentile queue as shown in Table 5 is expected to occur 1 to 2 times per peak hour. When 95th percentile vehicle queues that exceed the available storage length coincide with poor service levels, it may take several cycles for vehicle queues to clear. However, when intersections are operating within the expected capacity range, queues tend to clear quickly and do not cause long-term disruptions to the transportation network.

Results of the queuing analysis indicate that vehicles traveling westbound on Bernal Avenue accessing northbound I-680 create queues through the Koll Center Driveway during both the morning and evening peak hours. Vehicle queues also extend beyond the available storage at the I-680 southbound on-ramp from westbound Bernal Avenue. The Project would add traffic to these movements, but is not expected to increase vehicle queues by more than one vehicle.

Recommendation: The Project applicant shall pay their fair share towards planned improvements at the I-680 at Bernal Avenue interchange through the payment of applicable local and regional traffic impact fees. Improvements are planned for both the northbound and southbound ramps.

Vehicle queues periodically spillback from turn-pockets by approximately 5 to 10 vehicles, at the Bernal Avenue at Valley Avenue intersection in the existing and future conditions. As shown in Table 4, the average queue is within the available storage for all scenarios with exception to the future AM peak hour at the westbound left turn pocket. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour.

Vehicle queues spillback in the westbound direction of the Bernal Avenue at I-680 Southbound intersection for existing and future conditions. As shown in Table 4, the average queue for the



westbound left turn movement exceeds the available storage length. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour. As depicted in Table 3, the intersection is anticipated to operate at acceptable levels so vehicle queues are expected to clear quickly.

Vehicle queues at the intersections on Valley Avenue are projected to be minimal in the existing and near-term conditions with the addition of Project traffic. In the cumulative condition with additional through traffic on Valley Avenue, northbound and southbound vehicle queues on Valley Avenue at the Gateway Commons intersection could extend to the adjacent right-in/right-out intersections; however, the southbound vehicle queue is not expected to extend to Bernal Avenue, nor is the northbound queue expected to block access to the southern Wile Rose Place. As the intersection is projected to operate at acceptable levels, the vehicle queues are expected to clear quickly.

Recommendation: Periodically monitor the operation of the Valley Avenue at Gateway Commons intersection as the study area is developed over time and traffic volumes increase.



TABLE 4
50TH PERCENTILE VEHICLE QUEUES IN FEET¹

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	210	90	225	95	285	155	300	160	275	85	280	90
	Westbound Thru	475	25	20	25	20	35	35	40	35	85	50	85	50
	Eastbound Thru	400	315	145	325	150	700	200	710	205	330	165	340	170
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	115	30	155	40	370	45	410	55	60	0	70	0
	Westbound Thru	560	120	25	125	80	185	145	195	150	600	180	645	190
	Northbound Right	350	10	60	10	65	40	85	40	95	70	35	75	40
	Eastbound Left	150	70	30	70	30	90	40	90	45	200	25	200	30
	Eastbound Thru	475	55	135	55	150	125	215	130	245	160	105	165	115
Koll Center Drive at Bernal Avenue	Westbound Thru	520	250	115	270	125	335	170	360	180	400	165	420	170
	Westbound Left	195	25	30	25	30	45	40	45	45	45	40	45	45
	Northbound Left	380	75	70	85	75	115	100	115	100	115	100	125	100
	Northbound Thru/Right	380	15	5	15	10	20	20	20	20	20	15	25	15
	Eastbound Left	280	80	10	85	10	125	15	125	15	125	10	130	10
	Eastbound Thru	560	75	150	80	160	120	200	125	215	120	145	125	160
Valley Avenue at Bernal Avenue	Westbound Thru	700	305	195	310	200	305	210	315	210	410	205	410	205
	Westbound Left	175	35	55	35	65	110	130	120	145	285	160	295	175
	Northbound Left	280	100	45	125	55	105	145	130	175	125	120	160	135
	Northbound Thru	450	45	25	55	35	105	125	125	135	220	130	240	140
	Northbound Right	170	--	--	--	--	--	--	--	--	--	--	5	--
	Eastbound Left	510	70	120	70	130	55	150	60	155	55	90	55	90
	Eastbound Thru	510	145	295	150	315	235	370	245	375	290	300	290	305
	Southbound Left	200	45	70	45	75	65	155	65	155	90	190	90	195
	Southbound Thru	500	180	130	190	150	155	170	175	185	315	165	325	175
	Southbound Right	200	65	0	65	7	115	15	125	15	170	5	170	10



TABLE 4
50TH PERCENTILE VEHICLE QUEUES IN FEET¹

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	--	--	--	--	5	--	5	--	5	--	10	--
	Southbound	170	25	10	35	10	45	55	60	70	80	55	125	70
	Northbound	180	10	10	15	20	30	35	35	50	75	35	85	50
Valley Avenue at East Gate Way	Eastbound	110	5	--	5	--	5	--	5	--	5	--	5	--
	Southbound	210	20	5	20	5	35	45	35	50	75	45	80	50
	Northbound	250	5	10	10	10	20	25	25	35	75	25	85	35

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

1. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.
2. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.



TABLE 5
95TH PERCENTILE VEHICLE QUEUES IN FEET¹

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	320	190	340	195	460	270	490	280	385	150	370	155
	Westbound Thru	475	40	30	40	30	50	50	50	50	120	80	125	80
	Eastbound Thru	400	615	270	620	280	940	370	945	385	530	295	545	300
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	570	570	580	580	680	580	730	560	260	55	280	60
	Westbound Thru	560	215	140	225	150	330	270	340	280	915	330	960	390
	Northbound Right	350	45	115	45	130	85	85	40	195	120	70	125	80
	Eastbound Left	150	135	74	135	70	165	110	165	115	325	65	325	65
	Eastbound Thru	475	100	241	100	270	220	410	225	455	265	180	265	205
Koll Center Drive at Bernal Avenue	Westbound Thru	520	530	265	555	270	670	325	705	335	700	315	760	325
	Westbound Left	195	85	100	85	110	110	120	110	135	110	120	110	135
	Northbound Left	380	160	165	170	165	190	200	195	215	185	205	190	210
	Northbound Thru/Right	380	55	57	55	60	65	80	65	85	65	70	65	75
	Eastbound Left	280	180	40	175	40	215	50	215	50	230	35	230	35
	Eastbound Thru	560	165	315	170	330	240	380	240	400	235	285	240	300
Valley Avenue at Bernal Avenue	Westbound Thru	700	470	305	470	305	470	295	470	295	600	290	600	290
	Westbound Left	175	80	125	85	145	240	280	250	320	515	370	525	400
	Northbound Left	280	200	95	260	110	210	300	265	330	230	250	285	280
	Northbound Thru	450	85	60	110	70	175	195	200	210	315	200	365	210
	Northbound Right	170	15	25	25	30	30	35	35	40	30	40	45	45
	Eastbound Left	510	125	280	130	280	105	330	110	330	95	175	95	175
	Eastbound Thru	510	250	600	255	600	365	635	365	640	400	495	400	510
	Southbound Left	200	85	140	85	140	115	315	115	315	145	365	140	365
	Southbound Thru	500	320	250	335	270	315	285	345	310	590	275	600	295
Southbound Right	200	145	40	145	50	215	60	225	70	285	50	285	60	



TABLE 5
95TH PERCENTILE VEHICLE QUEUES IN FEET¹

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	5	12	10	15	10	25	25	35	20	25	40	35
	Southbound	170	25	25	30	45	70	85	80	125	185	85	315	125
	Northbound	180	60	20	85	30	110	135	155	175	195	135	315	175
Valley Avenue at East Gate Way	Eastbound	110	--	--	5	5	--	--	10	5	--	--	15	5
	Southbound	210	20	20	20	30	50	65	60	80	180	65	205	80
	Northbound	250	45	15	45	15	85	110	90	125	180	110	200	125

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

3. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.

4. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.



SITE ACCESS AND ON-SITE CIRCULATION

This section discusses site access and internal circulation for vehicles, pedestrians, bicycles, and emergency vehicles based on the site plan presented previously on Figure 2. A parking assessment was also conducted. Site recommendations are presented on **Figure 10**.

Vehicle Access

Vehicular access to the site would be provided from a connection to Gateway Commons and a new roadway connecting to Valley Avenue at East Gate Way. Both driveways would provide full access and are projected to operate acceptably during peak hours as shown in Table 3. Provision of a vehicle connection to Whispering Oaks Way would not be necessary to provide acceptable vehicle operations on Valley Avenue.

Recommendation: Install all-way stop-control at the Street B/Gateway Commons intersection.

The full access driveway on Valley Avenue would align with the existing roundabout on E. Gate Way.

Recommendation: Maintain landscaping on the northwest corner of the intersection to avoid sight distance conflicts (shrubs should not be higher than approximately 30 inches and tree canopies should be approximately six feet from the ground).

Proposed streets providing the main connections through the site and limited driveway access are proposed to be 36 feet wide with parallel parking on both sides. Courts would provide garage access to most of the single-family homes with a width of 24 feet without parking, or 26 feet if perpendicular parking is provided on one side of the street.

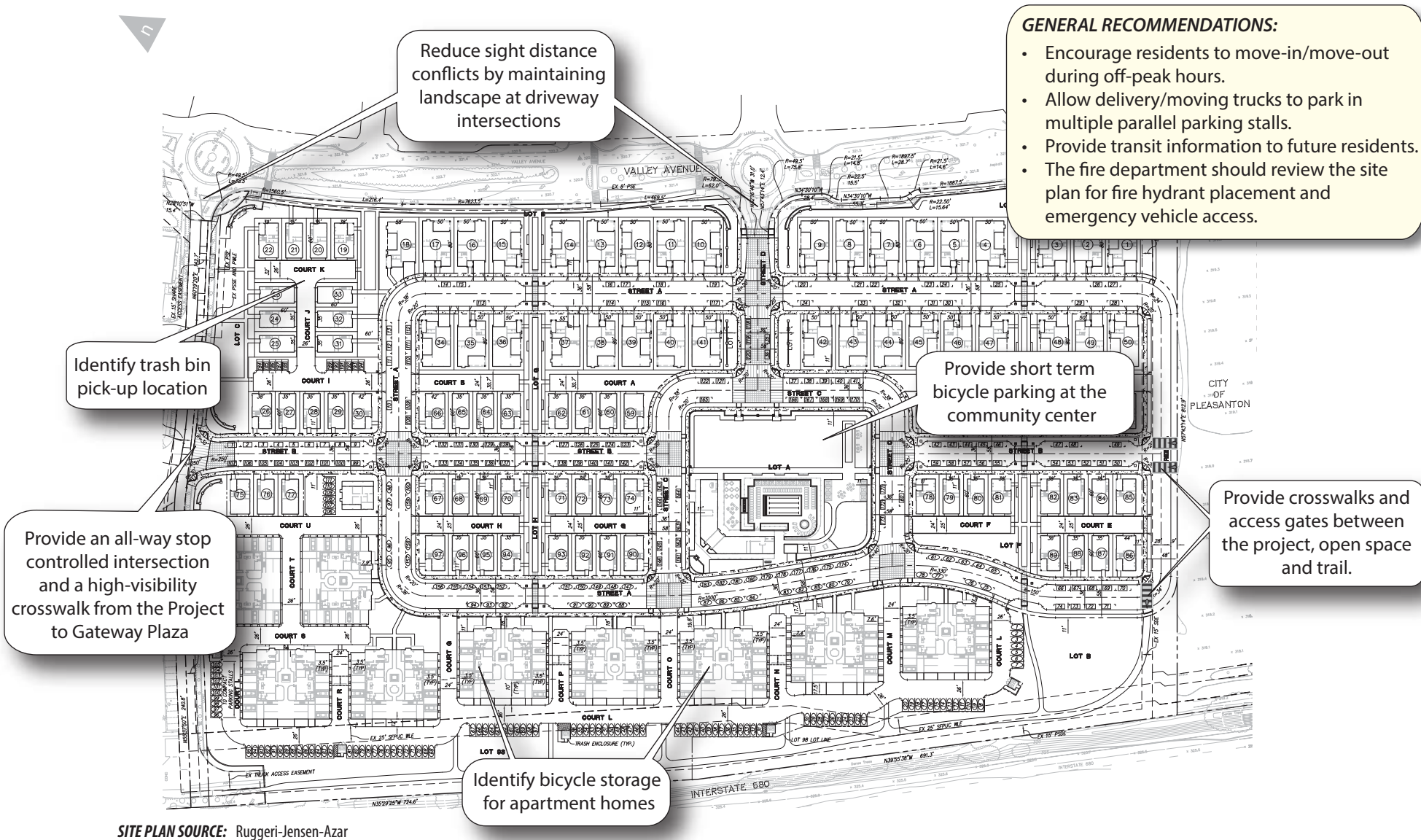


Figure 10.

Consultant Site Plan Recommendations

WC11-2878.02_10_SitePlanRecs.ai



Emergency Vehicles

A fire station is located on Bernal Avenue approximately 1/4-mile from the Project site. Emergency vehicles have multiple ways of accessing the site from Bernal Avenue and Valley Avenue so if one entrance is blocked, alternative access would be available. An AutoTurn assessment indicates that a large fire truck would enter into the opposite travel lane when navigating through the site. Large emergency vehicles may have difficulty accessing homes on Courts J and K.

Recommendation: The fire department should review the site plan for fire hydrant placement and emergency vehicle access. Results of the AutoTurn assessment are shown on **Figure 11** for their use in reviewing site access and circulation.

Pedestrian

As part of the Project, new pedestrian paths could be constructed within the Project site and connect to the existing pedestrian facilities on Valley Avenue. Curb extensions and high visibility crosswalks at intersections would alert drivers to expect pedestrian traffic. Pedestrian paths and plazas would be constructed to facilitate walking throughout the site. Most internal roadways provide sidewalks on both sides of the street with exception to some of the Court frontage. External roadways on Valley Avenue and Gateway Commons provide sidewalk along both sides of the street.

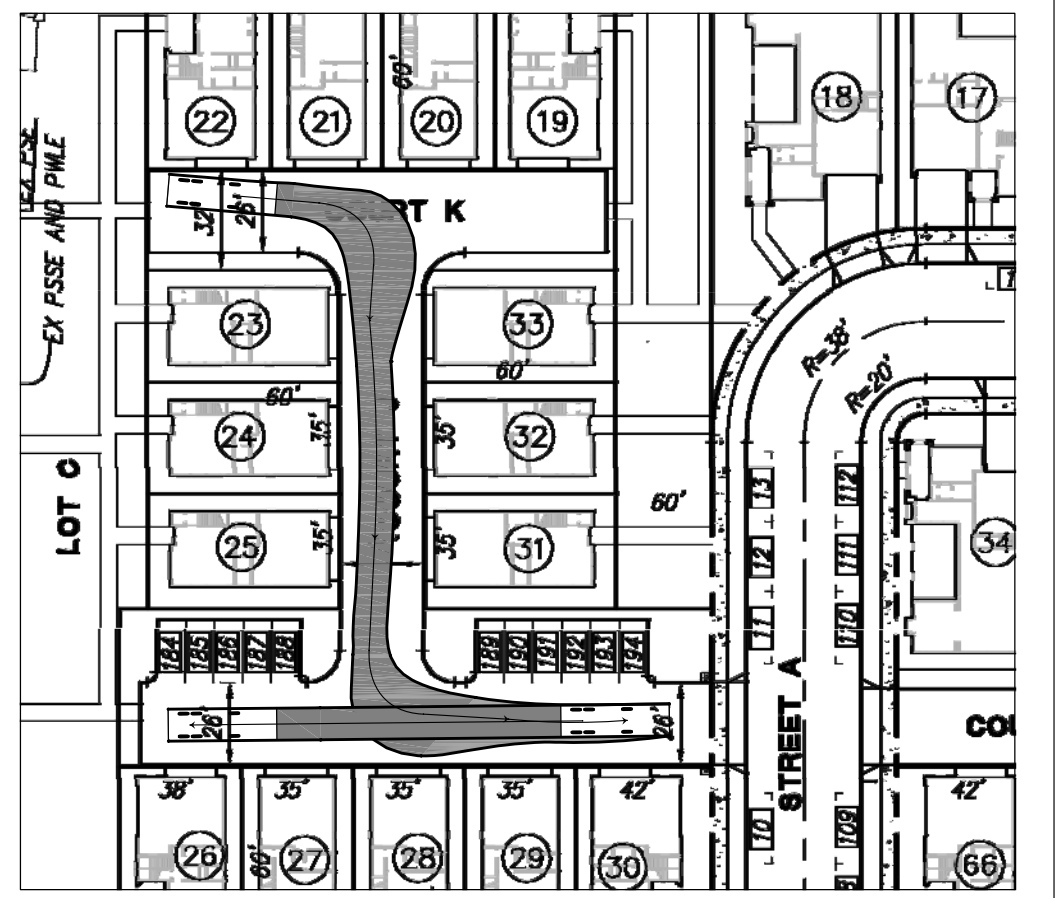
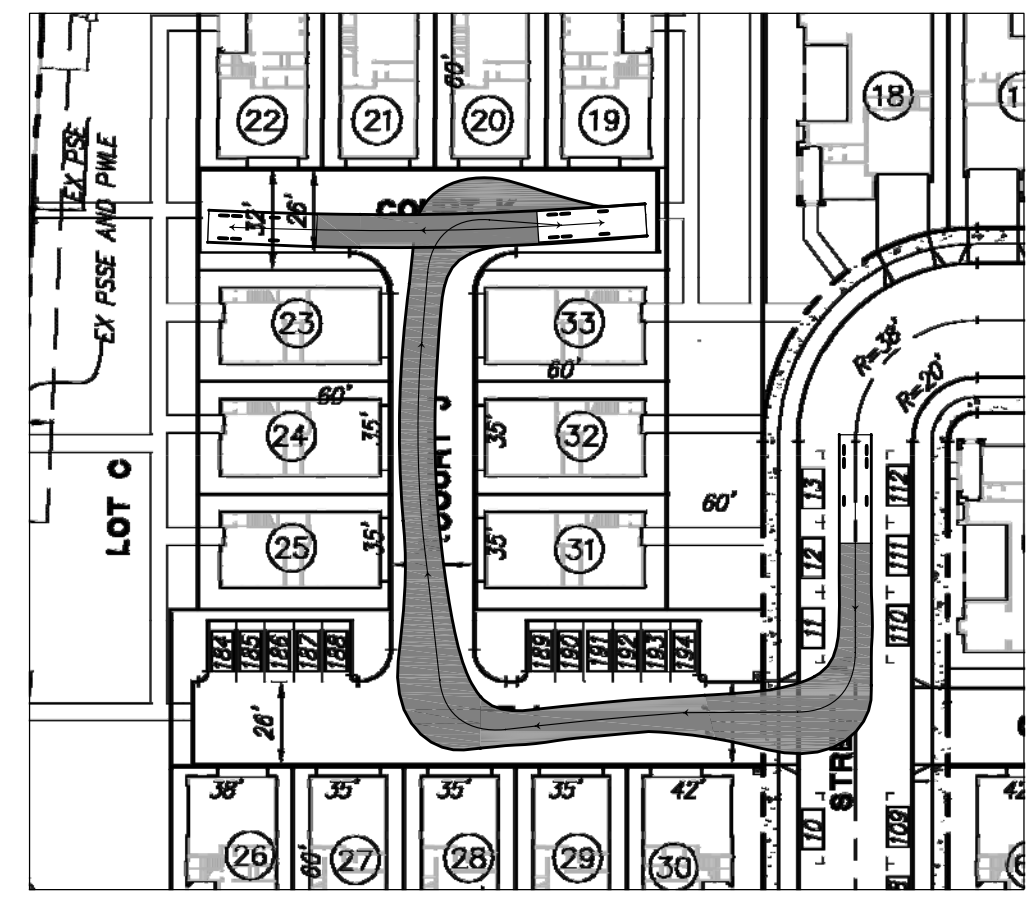
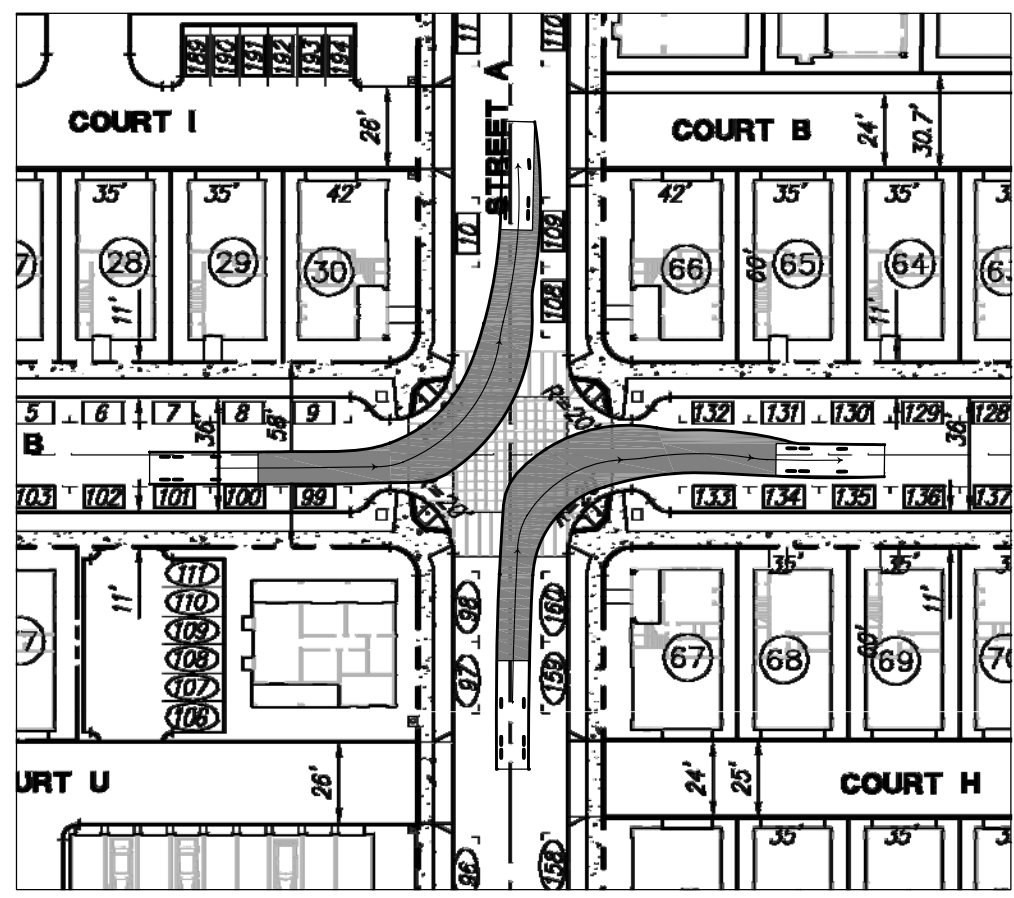
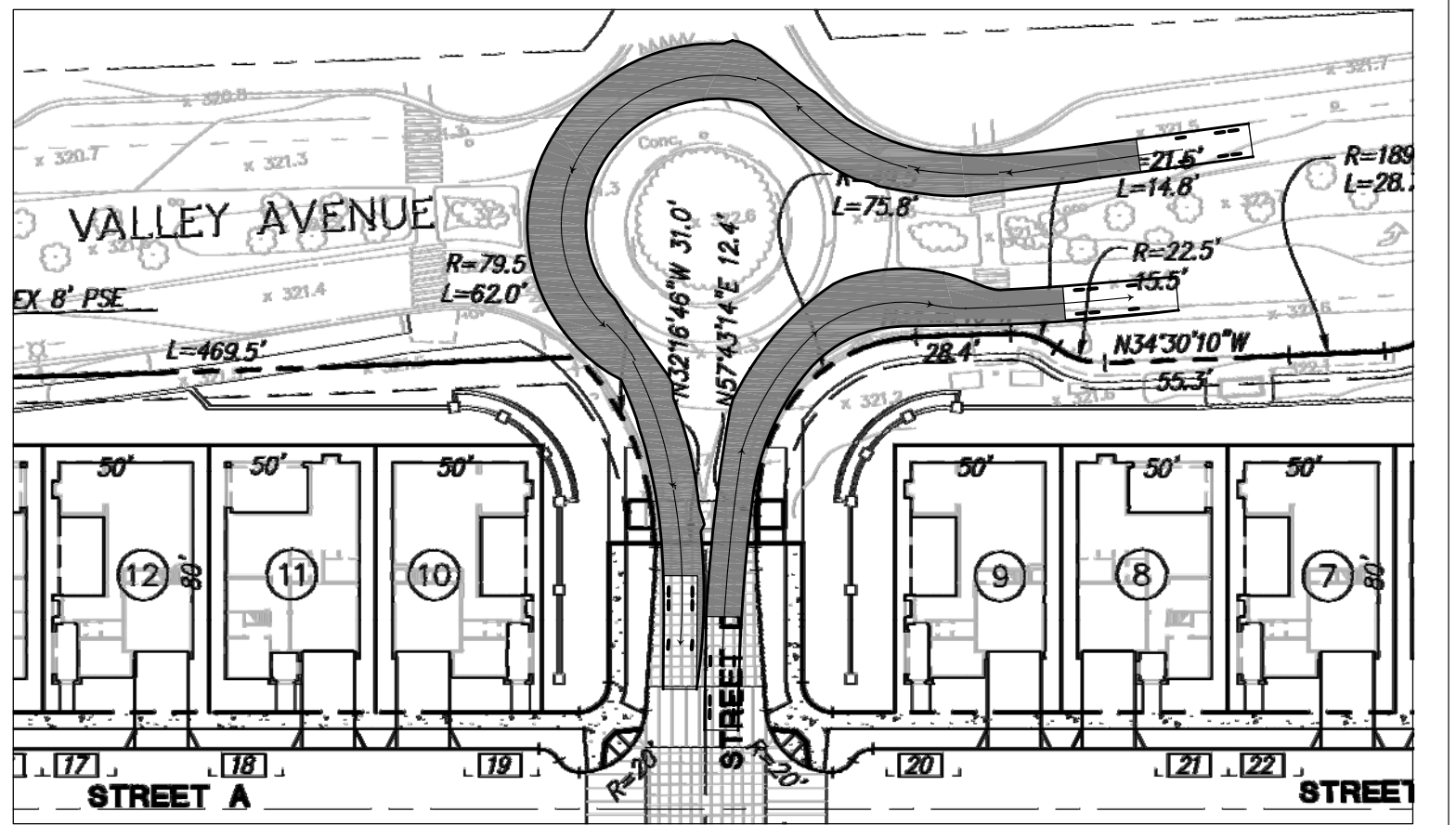
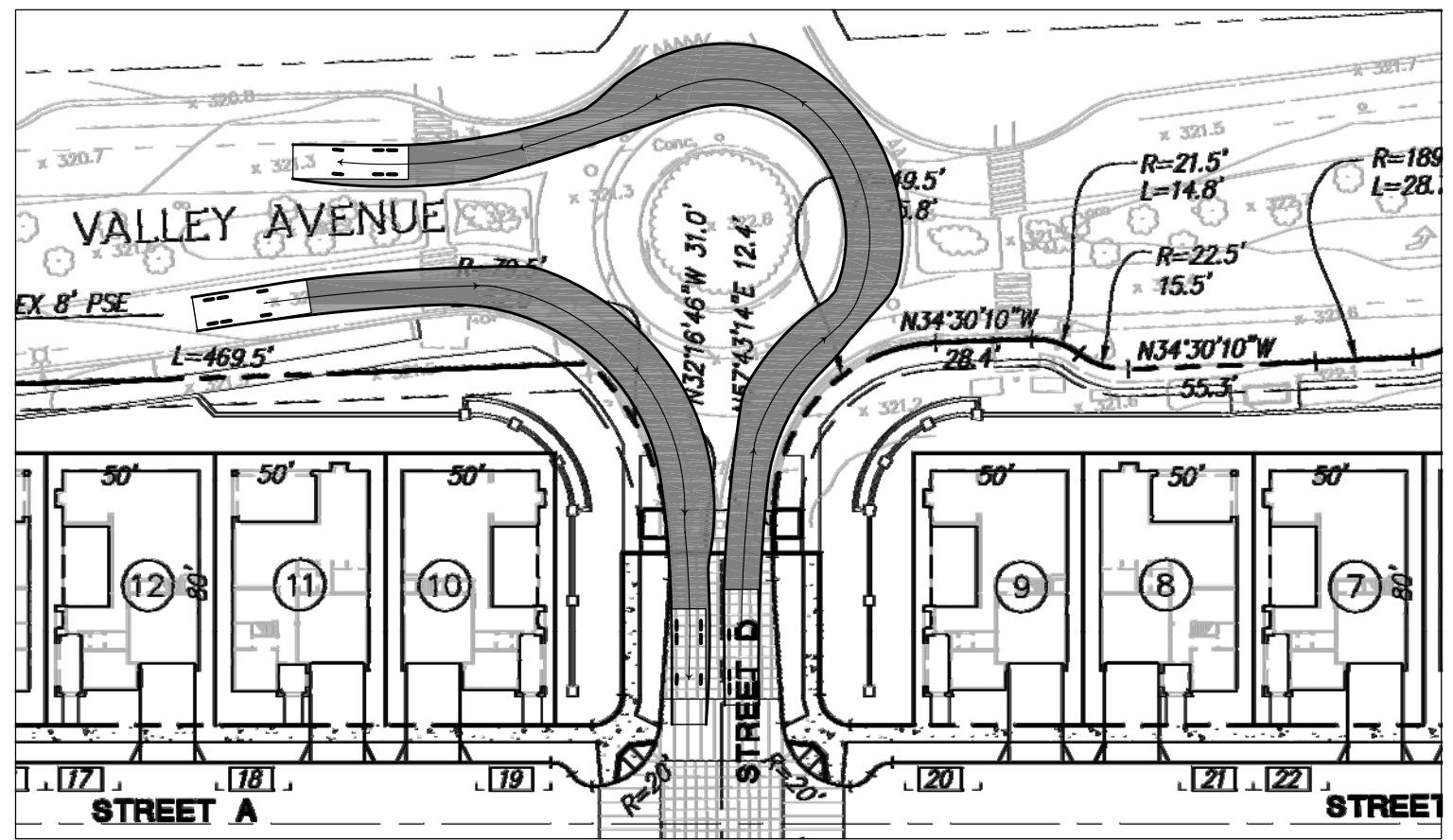
Recommendation: Provide a high-visibility crosswalk from the Project to the Gateway shopping center on the east leg of Gateway Commons and Street B, to enhance pedestrian connectivity.

Bicycle

Class II bicycle facilities (bike lanes) are currently provided on Valley Avenue along the Project frontage. The Project proposes a trail connection on the south-west side of the Project to a proposed Regional class III trail which parallels I-680. The Project would connect to the proposed trail from Street A and Street B.

Recommendation: Provide a pedestrian crosswalk across Street A to connect the Project to the trail entrances.

Recommendation: Provide access gates between the open space, trail and the Project along Street A to encourage residents to use the trail and open space.





Bicycles would be permitted within the Project vehicular travel way. Bicycle parking is not shown on the site plan, but it is anticipated that future residents of the single family homes would be able to store bicycles within their private garages.

For the multi-family portion of the site 0.8 secure and weather protected bicycle parking spaces per unit are required, resulting in a requirement of 168 long-term bicycle parking spaces for the 210 apartment units. As each apartment unit would be provided a private garage, the garages should be large enough for storage of a bicycle and a vehicle or bicycle storage rooms should be provided throughout the apartment community. Additionally, short term bicycle parking should be provided at the community center.

Recommendation: Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.

Transit

Wheels currently serve the Project area with stops along Valley Avenue, Bernal Avenue, and Case Avenue. No changes to the number of transit stops or level of transit service are proposed as part of the Project. Additional transit facilities are located in the Project area such as the ACE and BART station located approximately 1 mile and 5 miles away, respectively.

Recommendation: Provide information to new residents regarding transit service provided in the area.

Delivery Vehicle Access

Access to the site by moving trucks, furniture delivery, and trash collection vehicles are expected to occur on a regular basis. No designated loading areas are shown on the site plan. For the majority of single family homes, delivery/moving vehicles would be able to park on the street in close proximity to the destination. For some homes on Courts J and K, internal access may be constrained and delivery vehicles may stop on Valley Avenue or Gateway Commons, which should not be allowed. For deliveries/moving in the apartment home area, trucks may park on the internal drive aisle temporarily blocking two-way travel on some of the Court Streets.

Recommendation: Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel



parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.

Trash collection areas are shown throughout apartment home area and it is assumed that each single family home would have their own private trash containers to be set at the curb on designated collection days. Trash collection vehicles may have difficulty accessing private garbage containers from homes Court J and K and trash containers may need to be picked up from Street A. Should all ten homes from Courts J and K place trash containers on Street A and when on-street parking supplies are at a high level of occupancy, there may not be sufficient curb space for 20 trash containers (assuming one trash and one recycle container per unit)

Recommendation: Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.

Parking

City of Pleasanton requirements for parking were reviewed. For apartment uses, 1.5 to 2 spaces are required for each unit with an additional 1 guest space for each 7 units, resulting in a parking code requirement of 351 spaces for the apartment portion of the project, as shown in **Table 6**. For the single family units, each unit is required to provide 2 spaces per unit, a total requirement of 194 spaces. The apartment portion of the project proposes to provide 216 private garage spaces and 111 off-street parking spaces, for a total off-street parking supply of 327 spaces, a deficit of 24 spaces as compared to code requirements. Each single family home would have a private two car garage and approximately 81 units would have a driveway of sufficient length to accommodate a parked vehicle, satisfying parking code requirements.

On-street parking is also provided, with approximately 183 spaces dispersed throughout the development. Although on-street parking cannot be counted towards the code required parking, as sufficient private reserved parking is provided and guest parking demand would be accommodated by the on-street parking, provision of additional off-street parking is not recommended.



**TABLE 6
 CITY CODE AUTOMOBILE PARKING REQUIREMENTS**

Land Use	Size	Parking Code Requirement	Parking Spaces Required	Private Garage Spaces	Off-Street Spaces ¹	Total
Apartments – First Four 1-2 Bedrooms	4 units	2 per unit	8			
Apartments –1-2 Bedrooms	198 units	1.5 per unit	297			
Apartments – 3+ Bedrooms	8 units	2 per unit	16	216	111	327
Apartment Guests	210 units	1 per 7 units	30			
Single Family Detached Housing	97 units	2 per unit	194	194	81	275
Total	307 units	~2.55 per unit	545	410	192	602

Notes:

1. Off-street spaces measured by number of single family dwelling unit driveways

Source: City of Pleasanton Municipal Code Section 18.88.030.

Americans with Disability Act parking requirements for apartments were calculated. ADA requires 2 percent accessible parking per assigned garage parking, 2 percent accessible per assigned on-street parking, and 5 percent accessible per unassigned and visitor parking, resulting in an accessible parking requirement of approximately 10 spaces. The Project proposes to include 11 accessible spaces.

CONCLUSIONS AND RECOMMENDATIONS

With construction of the Project, vehicular traffic to the site is expected to operate at acceptable levels of service and even with projected growth in the City, intersections along Bernal Avenue are projected to operate at LOS D or better during the weekday morning and evening peak hours evaluated for this study. With the expected growth, the City should monitor gateway intersections and provide appropriate improvements to minimize poor operations and spillback to adjacent intersections. The Near-term analysis recommends improvements for Bernal Avenue at the I-680 intersections before the Cumulative year.



Based on our site plan review, the following are recommended for consideration in development of the final site plan:

- Reduce sight distance conflicts by restricting parking on Gateway Commons, approaching Valley Avenue and maintain landscaping at the Valley Avenue at Gateway Commons intersection
- Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.
- Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.
- Provide information to new residents regarding transit service provided in the area.
- Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.
- The fire department should review the site plan for fire hydrant placement and emergency vehicle access.

Technical Attachments:

A – Intersection Level of Service (LOS) Methods

B – Existing (2013) Traffic Count Sheets

C – Level of Service Reports

D – Signalized Intersection Queuing Reports

TECHNICAL MEMORANDUM

Date: July 3, 2013
To: Mike Tassano, City of Pleasanton
From: Kathrin Tellez and Sarah Nadiranto
Subject: **Transportation Assessment for Commons at Gateway**

WC11-2878.02

Fehr & Peers conducted a transportation assessment for the proposed Commons at Gateway (Project) in Pleasanton, California. This study evaluates peak-hour intersection and driveway operations under existing and future conditions. Recommendations to improve site access and circulation are provided. The following presents our project understanding, analysis methods, analysis results, site access and circulation, and conclusions and recommendations.

PROJECT DESCRIPTION

The Commons at Gateway is located on a 26.72 acre vacant parcel, east of Interstate 680 (I-680) and south of Bernal Avenue. The site is bound by a vacant parcel to the south, Interstate 680 to the west, the Pleasanton Gateway Shopping Center to the north, and Valley Avenue to the east, as shown on **Figure 1**.

The Project proposes to construct 307 residential units, including 210 apartment units and 97 single-family homes. Each apartment would have a 1-car private garage with additional driveway and on-street parking. The single family homes would be two- and three-story homes each with a private two-car garage. Some homes would also have driveway parking. On-street parking would also be available on the east side of Valley Avenue. The development would be oriented around a 1.3 acre community park that includes a business center, conference facilities, workout area, resort style swimming pool, media center, and spa. The community park area would also include electric vehicle charging stations. These amenities would be available to all community residents.

Access to the site would be provided by two existing roundabout intersections from Valley Avenue and an internal connection from Bernal Avenue through the Pleasanton Gateway



shopping center to the proposed Project. Along Valley Avenue, northern access would be provided at Valley Avenue at Gateway Commons intersection and southern access would be provided at the Valley Avenue and East Gate Way intersection. From Bernal Avenue, access would be provided from a signalized intersection opposite Koll Center Drive and an internal drive aisle through the retail center. A conceptual Project site plan is shown on **Figure 2**.

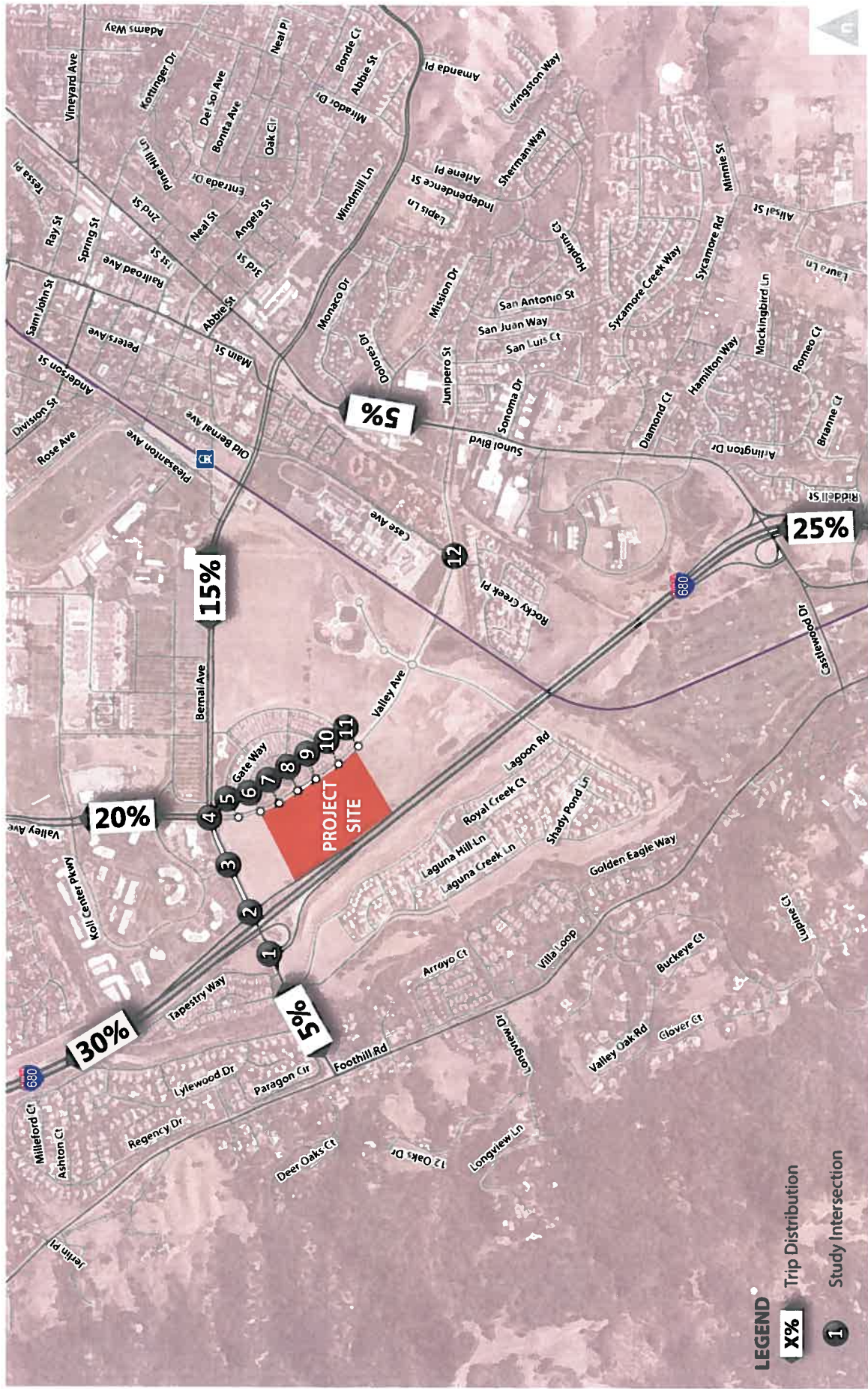
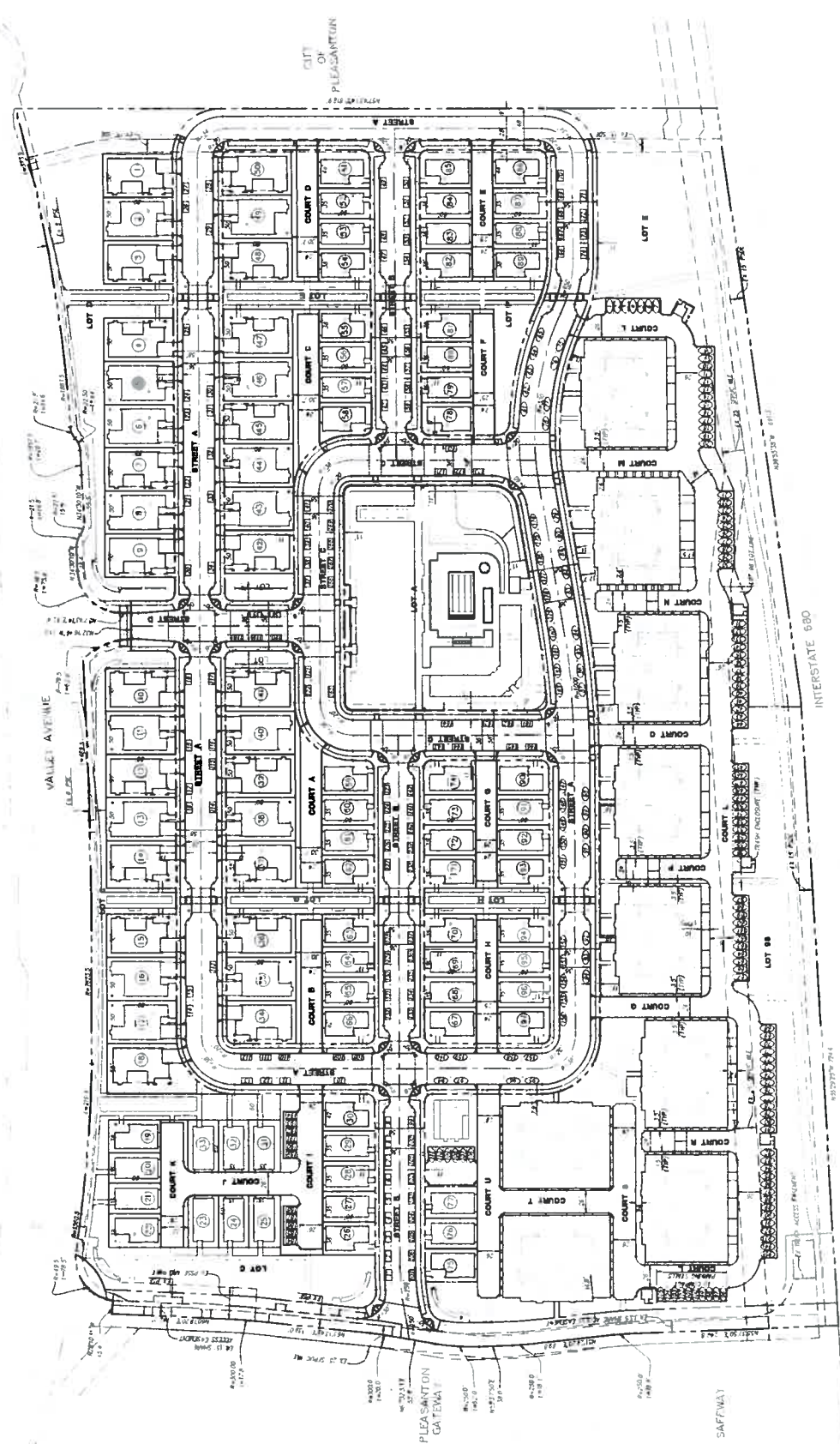


Figure 1.

Study Area and Trip Distribution



Source: Ruggeri-Jensen-Azar

Figure 2.

Conceptual Project Site Plan



ANALYSIS METHODS

Study Area and Analysis Scenarios

The following intersections were included in this assessment as they provide access to the Project site and are likely to be affected by the Project:

1. Interstate 680 Southbound Ramps at Bernal Avenue
2. Interstate 680 Northbound Ramps at Bernal Avenue
3. Koll Center Drive at Bernal Avenue
4. Valley Avenue at Bernal Avenue
5. Valley Avenue at Gateway Right-in/right-out Driveway
6. Valley Avenue at Gateway Commons
7. Valley Avenue at Wild Rose Place North
8. Valley Avenue at Wild Rose Place South
9. Valley Avenue at East Gate Way
10. Valley Avenue at Whispering Oaks Way
11. Valley Avenue at Oak Vista Way
12. Valley Avenue at Case Avenue

Study intersection operations were evaluated during the peak hour of traffic for weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods for the following scenarios:

- **Existing** – Existing conditions based on recent traffic counts.
- **Existing Plus Project** – Existing condition plus Project-related traffic.
- **Existing Plus Approved Projects** – Near-term conditions, which consider existing traffic plus anticipated traffic from approved developments that could affect the volumes at the study intersections.
- **Existing Plus Approved Projects Plus Project** – Near-term conditions plus Project-related traffic.
- **Cumulative Without Project** – Future forecast conditions, which considers local and regional traffic growth.
- **Cumulative With Project** – Future forecast conditions plus Project-related traffic.



Existing Conditions

This section describes transportation facilities in the Project study area, including the surrounding roadway network, transit, pedestrian, and bicycle facilities in the Project site vicinity.

Regional access to the Project site is provided by **Interstate 680 (I-680)**. I-680 is a north-south freeway that is near the western boundary of the City of Pleasanton. I-680 extends from the City of Fairfield in the north to the City of San Jose in the south. In Pleasanton, three travel lanes per direction are provided and the facility carries approximately 122,000 vehicles per day, based on information provided by Caltrans. Direct access to the study area is provided by a full interchange at Bernal Avenue, while secondary access is provided at Sunol Boulevard.

Bernal Avenue is an east-west roadway in the Project vicinity. East of downtown Pleasanton, the roadway continues north-south to Stanley Boulevard where it continues as Valley Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. The number of travel lanes on Bernal Avenue varies between two and six and Class II bike lanes are provided on the north side of the roadway from Valley Avenue to Pleasanton Avenue and on the south side of the roadway from Oak Vista Way to Pleasanton Avenue. The bike lanes continue east after Old Bernal Avenue. Parking is not permitted along Bernal Avenue. Sidewalks are provided on both sides of the roadway near the Project. In the Project vicinity, the posted speed limit of Bernal Avenue ranges from 35 to 45 miles per hour (mph).

Valley Avenue is a two- to four-lane roadway that forms a ring road with Bernal Avenue around downtown Pleasanton. Near the Project, Valley Avenue continues south of Bernal Avenue to Sunol Boulevard, forming the eastern boundary of the Project. Valley Avenue provides two lanes of travel in both directions north of Bernal Avenue and one lane of travel in both directions south of Bernal Avenue. Right-turn pockets and exclusive left-turn lanes are provided at signalized intersections and major driveways. Between Bernal Avenue in the north and Case Avenue in the south, there are four, one-lane roundabouts along Valley Avenue. Parking pockets are provided on the east side of Valley Avenue. Parking is not permitted on the west side of Valley Avenue along the Project frontage. Class II bike lanes are provided south of Bernal Avenue. A Class III bike route is provided north of Bernal Avenue. Sidewalks are provided on the west side of the roadway north of Bernal Avenue and on the east side of the roadway south of Bernal Avenue. The posted speed limit is 35 miles per hour along the roadway and 15 miles per hour at the roundabouts.



Case Avenue is a two-lane roadway, running north-south between Valley Avenue and Bernal Avenue. The roadway provides access to Hearst Elementary School and Pleasanton Middle School, both located one mile south of the Project. Two-way, left-turn lanes are provided along Case Avenue. Dedicated left-turn lanes are provided at the signalized intersections and a right-turn pocket is provided at the entrance to the middle school. Class II bike lanes and sidewalks are provided along both sides of the street. On-street parking is permitted along most of the roadway. The posted speed limit is 25 miles per hour.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Pedestrian facilities are provided on public roadways adjacent to the site. In the immediate Project vicinity, pedestrian crosswalks, push buttons and signals are provided at the signalized intersections on Bernal Avenue. At the roundabouts, crosswalks are provided along the northern and southern legs. Curb ramps are provided along the east and west legs of existing roundabouts to facilitate street crossings, but crosswalks are not striped. Sidewalks are not currently provided along the Project frontage Valley Avenue, but would be constructed with the project. Pedestrian counts at the intersections on Valley Avenue indicate that the most pedestrian activity occurs at the Valley Avenue at Oak Vista Way intersection with 23 pedestrians crossing Oak Vista Way during the morning peak hour and 8 pedestrian crossings during the afternoon peak hour.

Bicycle facilities in Pleasanton include the following:

- *Bike paths (Class I)* – Paved trails that are separated from roadways. There are also several unpaved off-street trails within Pleasanton. These facilities are typically shared with pedestrians, although bicycles must yield to pedestrians.
- *Bike lanes (Class II)* – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs. There may or may not be parking allowed on the roadway
- *Bike routes (Class III)* – Designated roadways for bicycle use by signs only; may or may not include additional pavement width for cyclists.
- *Side Paths* – An off-street facility located adjacent to a roadway that is shared with pedestrians. These paths may be paved or unpaved.

A paved trail encircles the west and north sides of the Koll Center. A trail that parallels I-680 is also provided, with access from Bernal Avenue, west of Meadowlark Drive. Class II bike lanes are provided on Valley Avenue south of Bernal Avenue, westbound Bernal Avenue east of Valley



Avenue, and Laguna Creek Lane between Valley Avenue and Lagoon Road. A side path is provided on the south side of Bernal Avenue east of Valley for pedestrians and bicyclists. A Class III bike route is provided along Valley Avenue north of Bernal Avenue. According to the 2010 Bicycle and Pedestrian Master Plan, Class II bike lanes are proposed along Valley Avenue north of Bernal Avenue.

Existing Transit Service

Transit service in the area is provided by Wheels, Pleasanton Paratransit, Altamont Commuter Express, Amtrak, and Bay Area Rapid Transit (BART). Wheels provides fixed-route and paratransit service throughout the Tri-Valley and connections to other transit service providers. Several Wheels bus routes serve the Project as described in **Table 1**.

The Altamont Commuter Express (ACE) Station is located about one mile (20 minute walk, less than 5 minute bike ride, or a short bus ride) from the Project site, as shown on Figure 2. ACE provides regional transportation connections from Stockton, through Pleasanton, down to San Jose and Santa Clara. Westbound service is provided for the morning commute with eastbound service for the afternoon and the evening commute. Train headways are approximately 60 minutes during both time periods.

Two Bay Area Rapid Transit (BART) stations are located in the City of Pleasanton. West Dublin/Pleasanton BART station is located on Stoneridge Mall Road about 4 miles (8 minute drive) from the Project site. Dublin/Pleasanton BART Station is located on Owens Drive about six miles (10 minute drive) from the Project site. BART provides regional transportation connections to much of the Bay Area and the Dublin/Pleasanton line provides direct access to San Francisco, with stops in Hayward and Oakland where connections may be made to other lines. BART train headways are 15-20 minutes from approximately 5:00 AM to 12:00 AM.



**TABLE 1
 WHEELS BUS ROUTES**

Lines	Route	Nearest Stop	Weekday		Weekend	
			Hours	Headway	Hours	Headway
Rapid, Local, and Express Routes						
8	E. BART to Downtown Pleasanton to E. BART	Valley Ave at Wild Rose Place	6:00 AM to 7:00 PM	60 minutes	8:00 AM to 9:00 PM (Saturdays) 8:30 AM to 2:00 PM (Sundays)	60 minutes (Saturday) 30 minutes (Sunday)
53	Pleasanton ACE Station to W. BART	Pleasanton ACE Station	5:30 AM to 8:45 AM; 4:00 PM to 7:30 PM	30 minutes to 75 minutes	Weekend Service not provided	
54	Pleasanton ACE Station to Hacienda Business Park to BART	Koll Center Parkway at Valley Avenue	5:30 AM to 9:30 AM; 3:45 PM to 6:30 PM	60 minutes to 75 minutes	Weekend Service not provided	
School Routes						
602	Del Prado Park to Foothill High School	Koll Center Parkway at Valley Avenue	7:00 AM to 7:40 AM; 3:00 PM to 3:25 PM	N/A ¹	Weekend Service not provided	

Notes:

1. One bus provided in the AM. Two buses are provided during the PM; however both busses are scheduled to leave at the same time.

Source: Wheels, Livermore Amador Valley Transit Authority and Fehr & Peers, January 2013.

Existing Roadway Operations

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection vehicle turning movement counts were conducted in March 2013 for the driveways that serve the Project site, including shared driveways that provide access to the Gateway shopping center. Traffic counts were collected after the Safeway gas station was open and operational for a few weeks and schools were in normal session. Vehicle counts for the signalized intersection were obtained from the City of Pleasanton, based on Spring 2013 data. For the study intersections, the single hour with the highest traffic volumes during the count periods was identified. Due to the different data collection sources, imbalances between the existing intersection volume counts



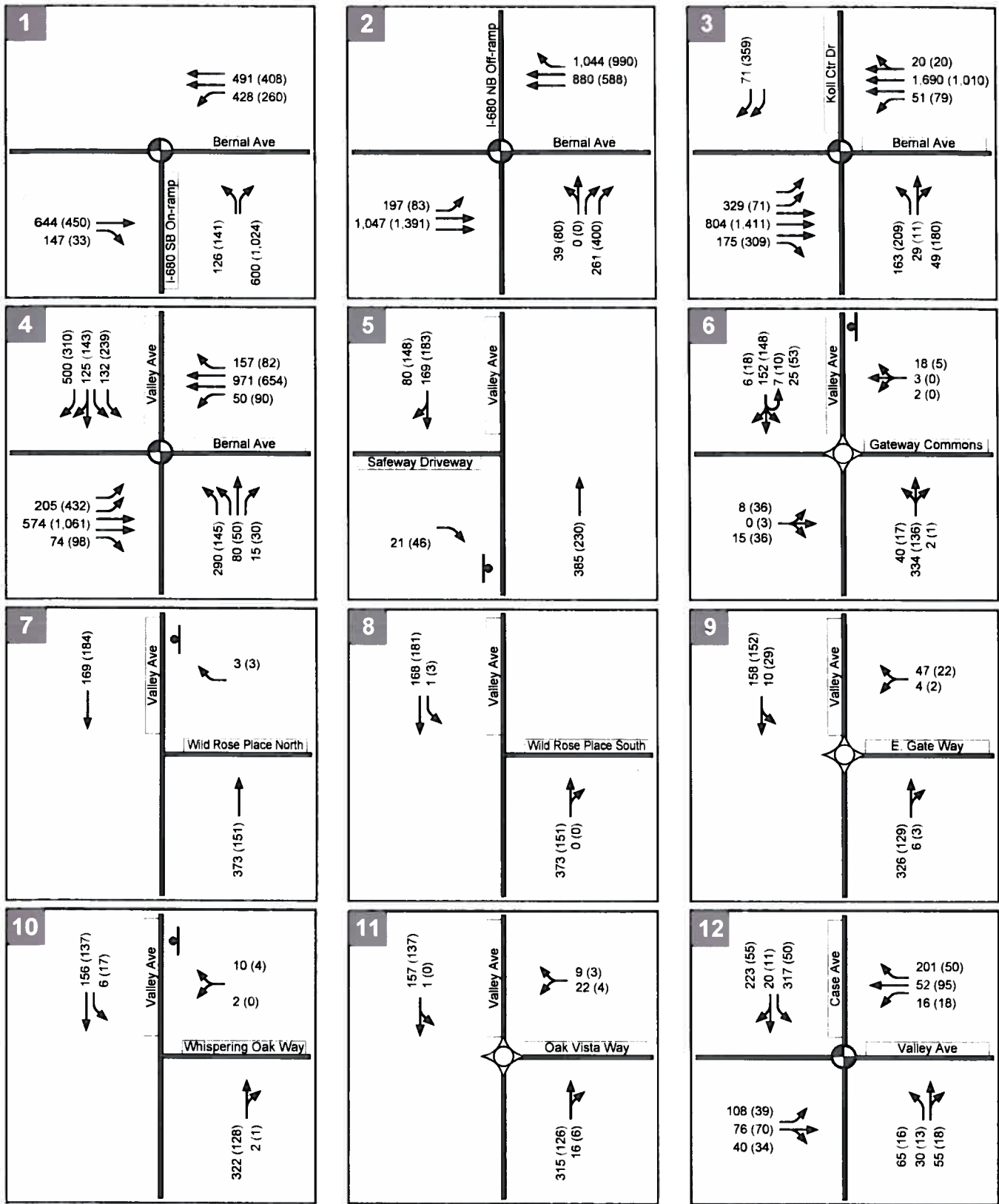
were observed. Volume balancing was completed for intersections along Bernal Avenue and Valley Avenue to reduce this imbalance. The peak hour volumes are presented on **Figure 3** along with the existing lane configuration and traffic control. The existing driveway traffic count data are provided in the Technical Appendix.

The operations of roadway facilities are described with the term "level of service" (LOS) in this study. **Appendix A** describes the LOS analysis methods. The City of Pleasanton has set LOS D as the level of acceptable delay at most major intersections, which are defined as intersections of two or more Arterials or one Arterial and one Collector Street. A number of intersections, referred to as Gateway and Exempted Downtown intersections, are exempt from the LOS D policy. These intersections may have a level of service below the LOS D standard if no reasonable mitigation exists or if the necessary mitigation is contrary to other goals and policies of the City. For Gateway intersections, additional vehicle capacity could encourage additional vehicle traffic that should remain on the regional transportation system and could also degrade the pedestrian experience and visual character of the intersection. Gateway intersections evaluated in this assessment include:

- Bernal Avenue at I-680 Northbound Ramp
- Bernal Avenue at I-680 Southbound Ramp
- Valley Avenue at Bernal Avenue

Although the City strives to maintain access to the roadway system from driveways and local streets, there is not a defined level of service standard for those locations.

Results of the existing conditions analysis are presented in **Table 3**, which shows that the intersections that provide access to the Project site operate at LOS D or better during both peak hours. Results of the queue assessment, presented in **Table 4** and **Table 5**, indicate that vehicle queues periodically (typically one to two times during either the AM or PM peak hours) spillback from the available storage for some travel movements.



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

Roundabout

Figure 3.

Existing Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



PROJECT TRAFFIC ESTIMATES

To estimate conditions with the Project, vehicle trips expected to be added to the roadway system were combined with existing traffic volumes through the following process:

1. **Trip Generation** – The *amount* of vehicle traffic entering and exiting the Project site was estimated.
2. **Trip Distribution** – The *direction* trips use to approach and depart the site was projected.
3. **Trip Assignment** – Trips were then *assigned* to specific roadway segments and intersection turning movements.

Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates are created on a daily basis and for the peak one-hour periods during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. The Project trip generation was estimated using rates from the Institute of Transportation Engineers *Trip Generation* (9th Edition) land use numbers 220 (apartment) and 210 (single-family detached housing). The resulting trip generation estimates are shown in **Table 2**.

The Project is located in close proximity bound by Gateway Center, a retail center anchored by a Safeway supermarket, pharmacy, bank, and other small shops and restaurants. On the north side of Bernal Avenue, approximately ¼ of a mile from the center of the Project site, is the Koll Business Center with over one million square feet of office development. Due to the close proximity of the retail plaza and employment center, it is anticipated that some of the future site residents might chose to live in the development due to the proximity to their work place and some may choose to walk to the retail center as most of their daily needs can be met by establishments within a short walking distance.

To estimate the potential level of interaction between the Project and adjacent sites, we used a mixed-use trip (MXD) generation model to estimate the expected interaction between the various uses in the immediate vicinity of the Project site. The MXD model suggests that during the morning peak hour, approximately 5 percent of the trips generated by the Project would be to one of the adjacent destinations, with up to 10 percent of the trips to an adjacent destination during the PM peak hour and on a daily basis.



Considering the potential for non-motorized trips to adjacent uses, the Project is expected to generate approximately 2,180 daily vehicle trips, including 177 AM peak hour vehicle trips and 211 PM peak hour vehicle trips.

**TABLE 2
 PROJECT TRIP GENERATION ESTIMATES**

Land Use	ITE Code	Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Apartments	220 ¹	210	1,400	21	86	107	86	47	133
Single Family Detached Housing	210 ²	97	1,020	20	59	79	64	38	102
<i>Total</i>			<i>2,420</i>	<i>41</i>	<i>145</i>	<i>186</i>	<i>150</i>	<i>85</i>	<i>235</i>
Walk/Bike Trips to Adjacent Development ³			-240	-2	-7	-9	-15	-9	-24
Net Vehicle Trips			2,180	39	138	177	135	76	211

Notes:

1. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations Apartments (Land Use Code 220):

Daily: $T = 6.06(X) + 123.56$

AM Peak Hour: $T = 0.49(X) + 3.73$; Enter = 20%; Exit = 80%

PM Peak Hour: $T = 0.55(X) + 17.65$; Enter = 65%; Exit = 35%

Where T = trips generated, X = Dwelling Units

2. Trip generated based on Institute of Transportation Engineers (ITE), *Trip Generation* (9th Edition) equations for Single Family Detached Housing (Land Use Code 210):

Daily: $\ln(T) = 0.92\ln(X) + 2.72$

AM Peak Hour: $T = 0.70(X) + 9.74$; Enter = 25%; Exit = 75%

PM Peak Hour: $\ln(T) = 0.90\ln(X) + 0.51$; Enter = 63%; Exit = 37%

Where T = trips generated, X = Dwelling Units

3. Walk/bike trips to adjacent retail development and employment center: Daily = 10%, AM = 5%, PM = 10%.

Source: *Trip Generation* (9th Edition), ITE, 2012; Fehr & Peers, April 2013.

Trip Distribution and Assignment

Vehicle trips expected to be generated by the Project were assigned to the roadway system based on existing travel patterns, locations of complementary land uses, Project site driveway location, and location of parking fields within the site. Trip distribution percentages are presented on **Figure 1**. The net new vehicle traffic generated by the Project was then assigned to streets in the



local roadway system for the AM and PM peak hours. The resulting Project trip distribution through for each study intersection is shown on **Figure 4**.

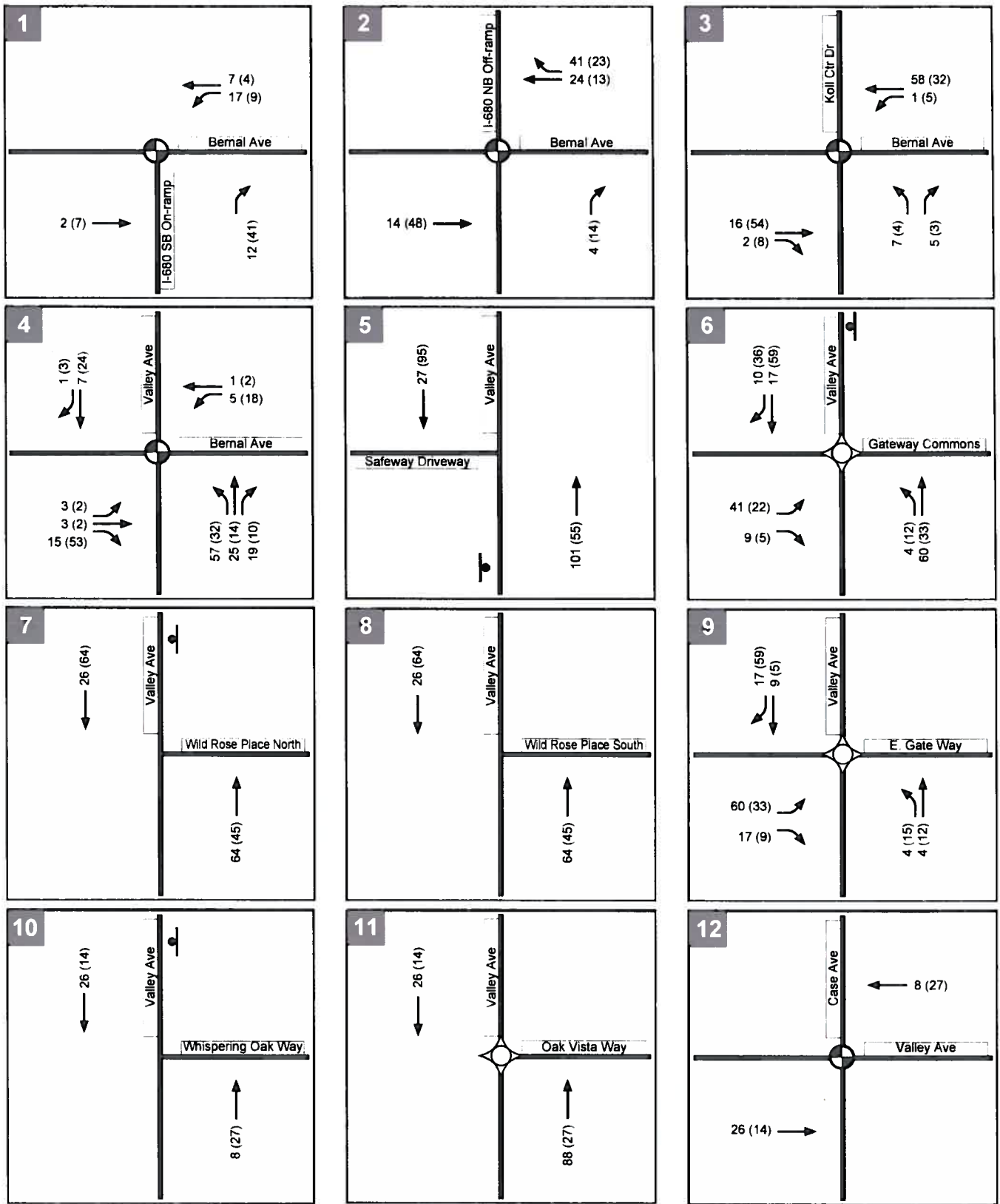
Project intersection volumes were added to existing traffic counts, to show Existing Plus Project traffic conditions. The resulting traffic counts are shown on **Figure 5**.

TRAFFIC FORECASTS

To assess the changes in traffic flow through the City with approved and planned development, the City of Pleasanton Travel Demand model was used to assess citywide vehicular travel changes. For this Project, the near-term and cumulative forecasts developed for the Housing Element Analysis were adjusted to remove traffic forecasts associated with development of the proposed Project on the site. **Figures 6** through **9** present the Near-Term without Project, Near-Term with Project, Cumulative without Project and Cumulative with Project Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control Devices. These forecasts reflect buildout of the adjacent Gateway Center.

ROADWAY NETWORK

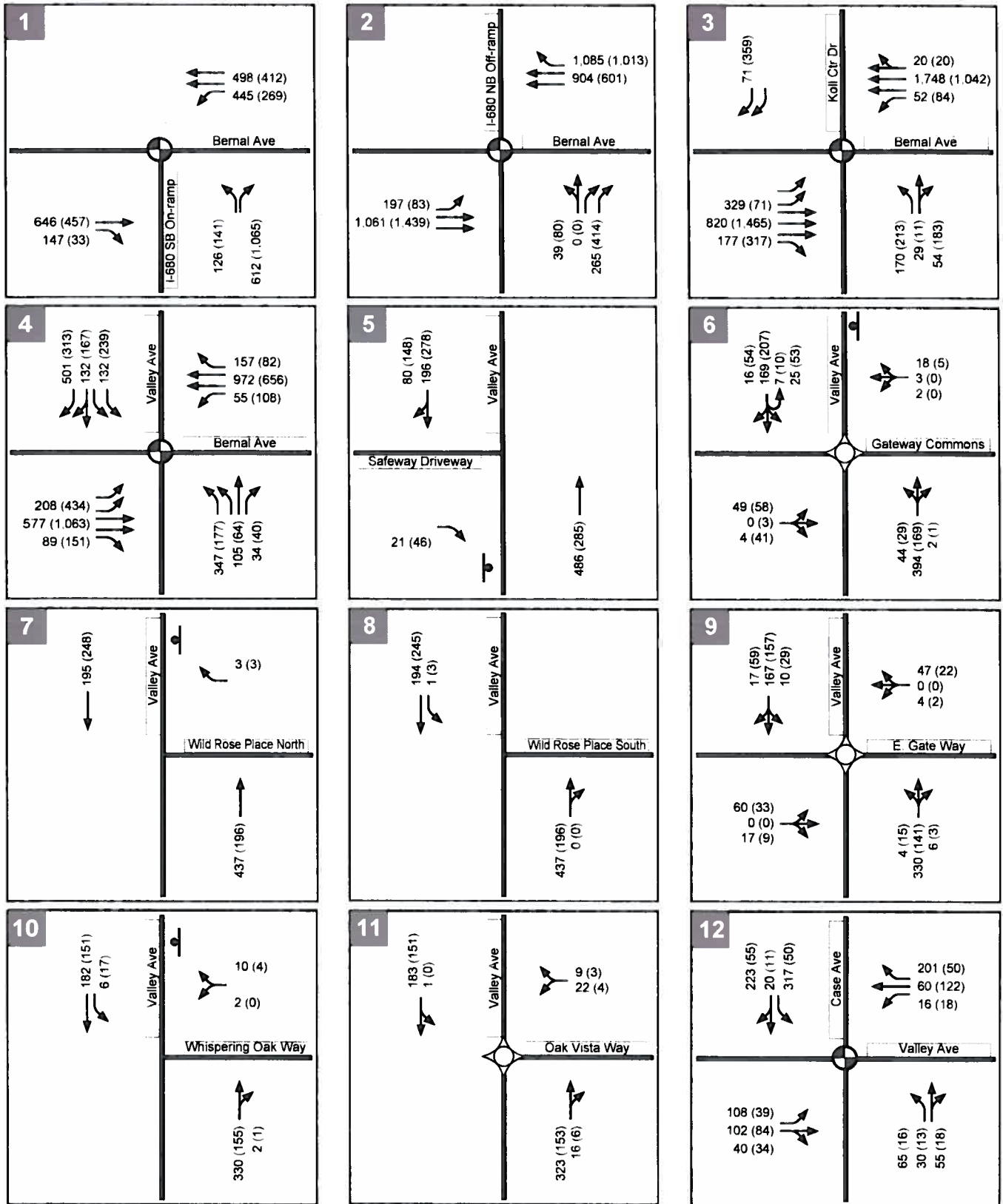
No changes to the lane configurations at the study intersections were assumed, except for Project driveways for the Existing and Near-Term analyses. For the cumulative analyses, planned improvements to the I-680 interchange at Bernal Avenue were assumed to be in place. Planned improvements include modifications to the westbound approach at Bernal Avenue at I-680 northbound ramps to widen the on-ramp to permit the conversion of a westbound through lane to a through-right lane and to the westbound approach at the Bernal Avenue at I-680 southbound ramps to provide dual left-turn lanes and one through lane. The lane configurations assumed under each scenario are shown on the volume figures.



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes Signalized Intersection Stop Sign Roundabout

Figure 4.

**Project Peak Hour
Intersection Volumes and Traffic Control**



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes




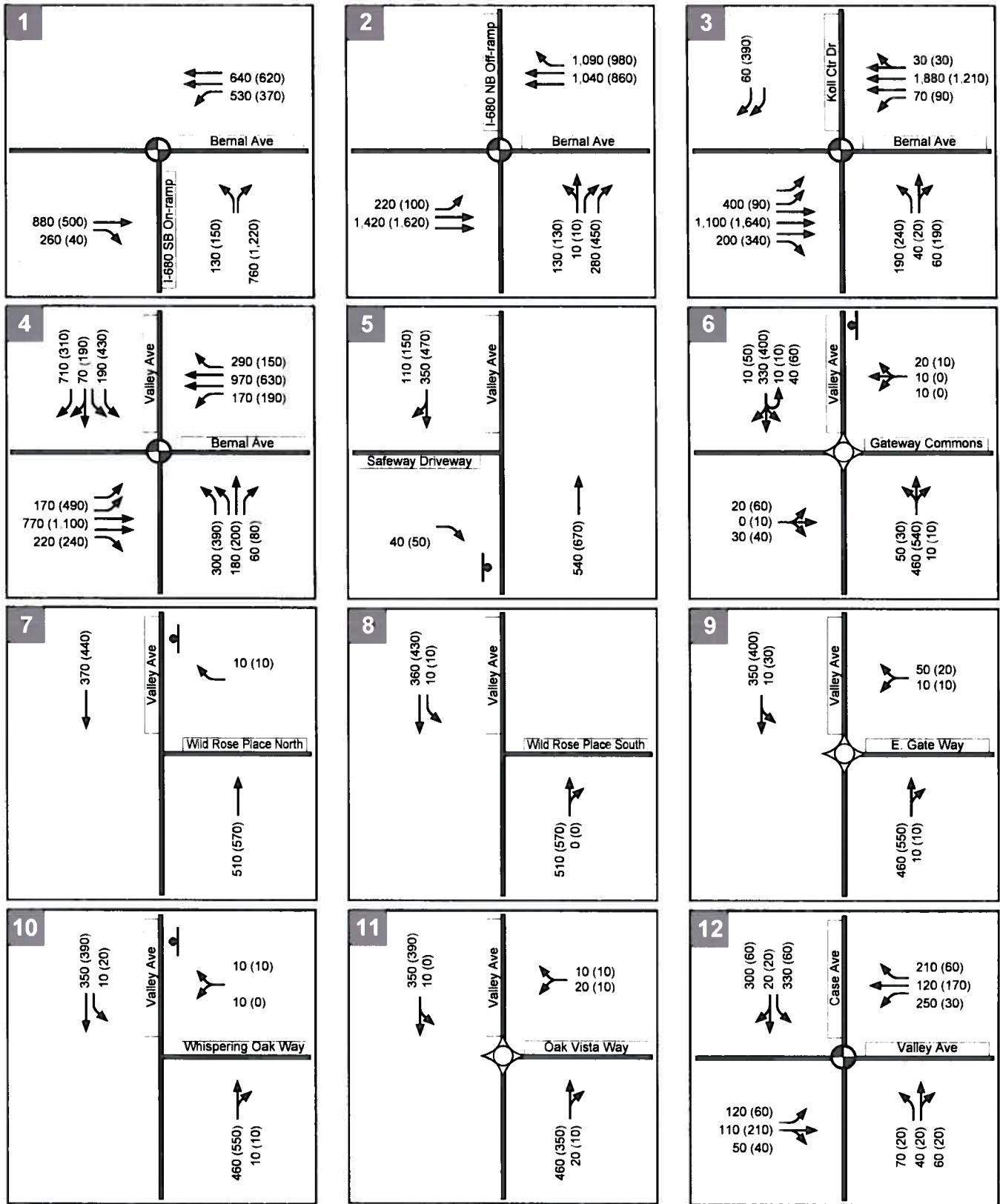
 Signalized Intersection
  Stop Sign
  Roundabout

Figure 5.

Existing Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations

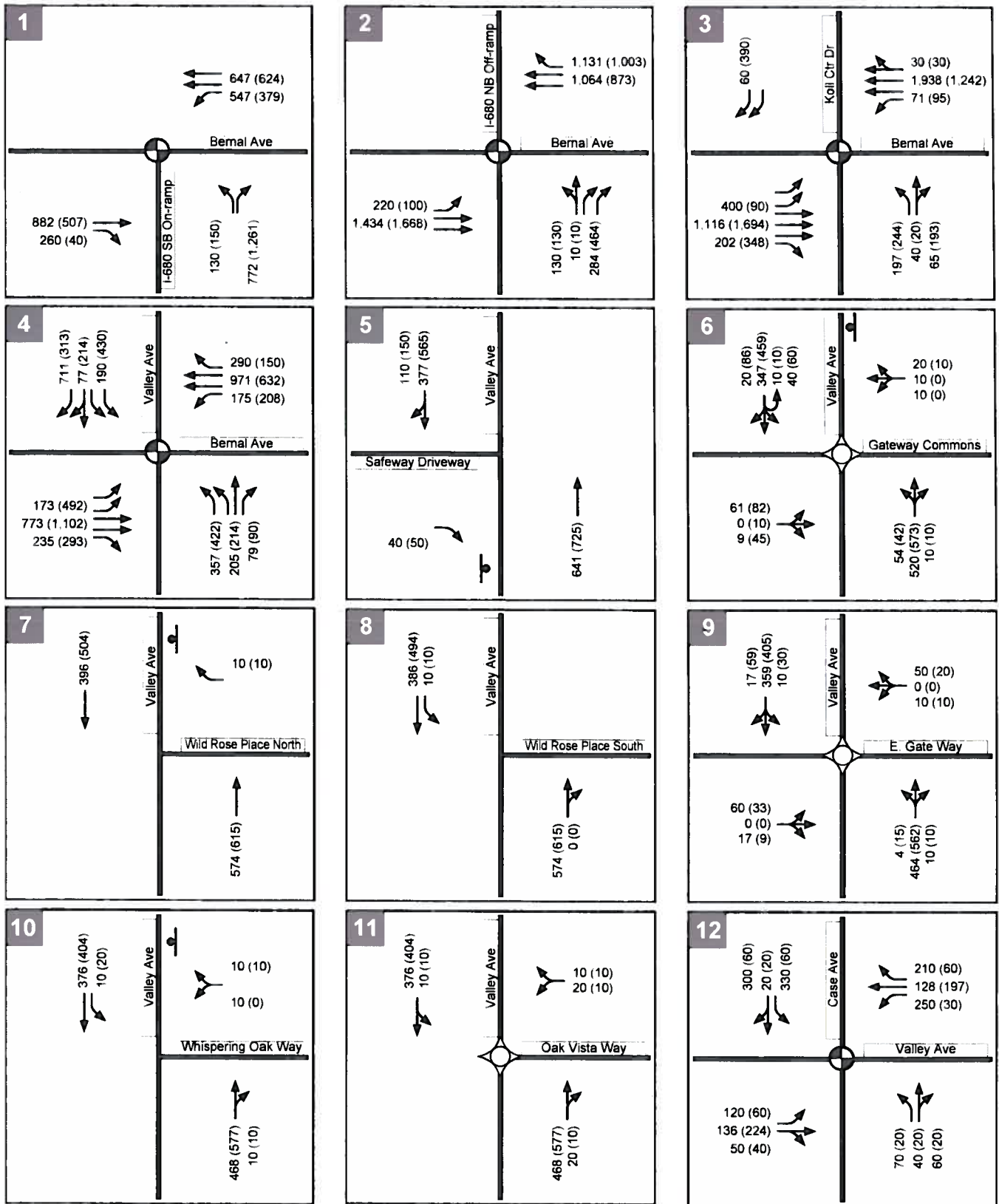


KEY XX (YY) AM (PM) Peak Hour Signalized Intersection Stop Sign Roundabout

Figure 6.

Near Term No Project Peak Hour

Intersection Volumes, Traffic Control and Lane Configurations



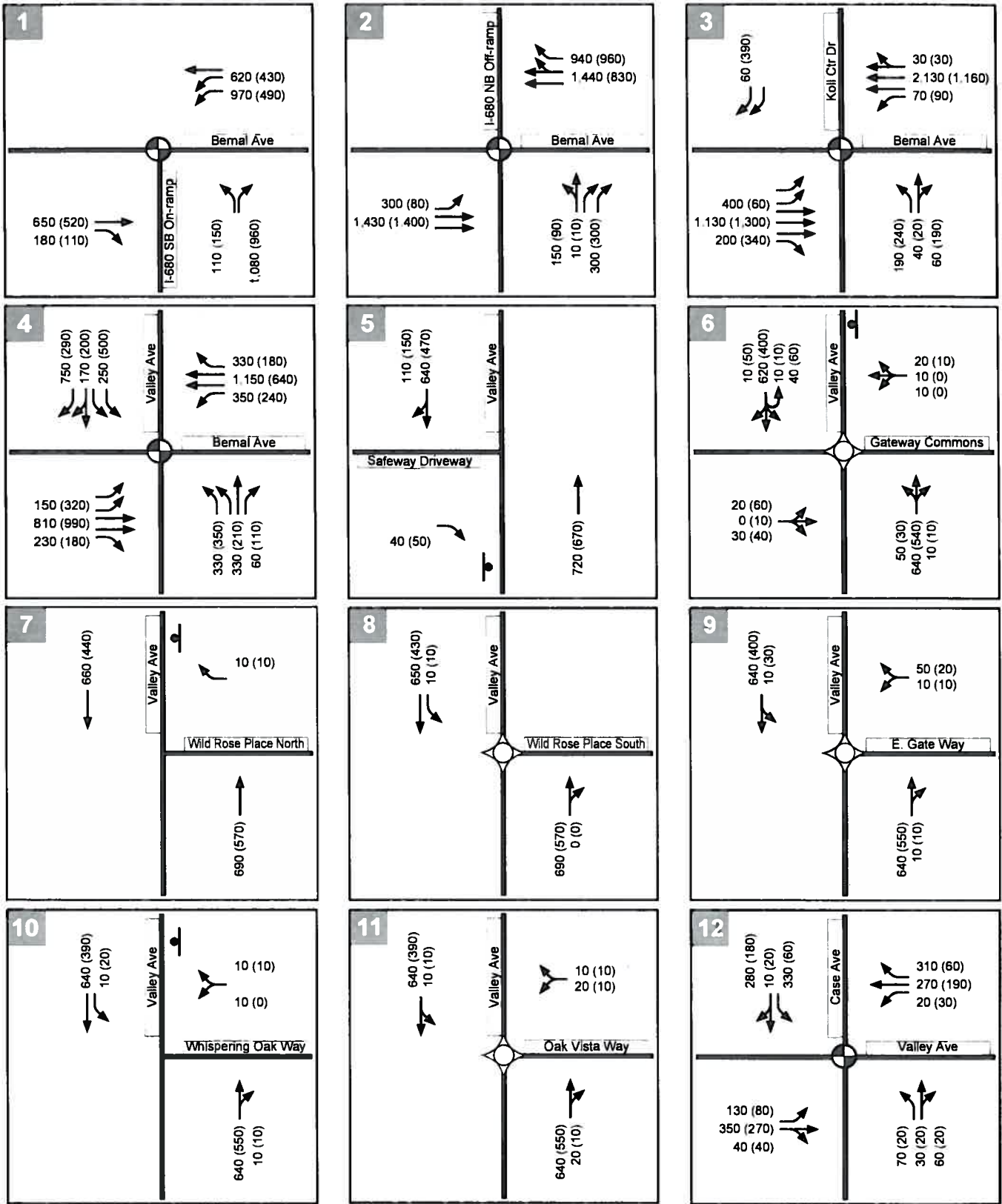
KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

● Signalized Intersection

● Stop Sign

⬠ Roundabout

Figure 7.
 Near Term Plus Project Peak Hour
 Intersection Volumes, Traffic Control and Lane Configurations

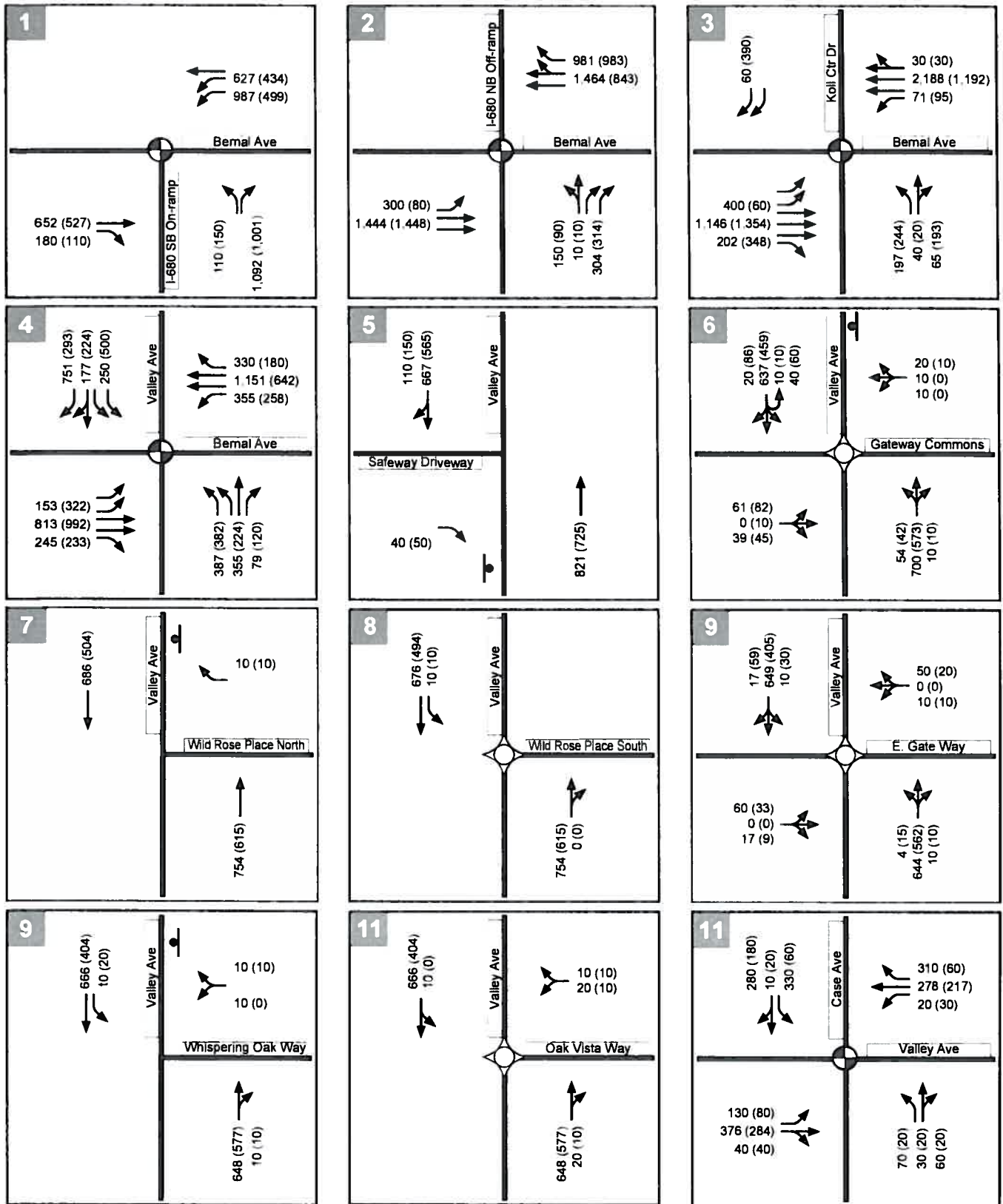


KEY XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection
 Stop Sign
 Roundabout

Figure 8.

Cumulative No Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



KEY XX (YY) AM (PM) Peak Hour Traffic Volumes




 Signalized Intersection
  Stop Sign
  Roundabout

Figure 9.

Cumulative Plus Project Peak Hour Intersection Volumes, Traffic Control and Lane Configurations



ANALYSIS RESULTS

Intersection Operations

Signalized and unsignalized intersections were evaluated using Synchro software, and roundabouts were evaluated using SIDRA software for the weekday AM and PM peak hours for analysis scenarios listed previously, based on the analysis methods outlined in Attachment A. **Table 3** presents level of service (LOS) operations at study intersections for the AM and PM peak hours.

As presented in Table 3, the driveways and intersections that provide access to the site from regional transportation system currently operate at LOS D or better during the morning and evening peak hours. With the addition of project traffic, intersections are expected to continue to operate at LOS D or better.

In the near-term and cumulative conditions, intersections would continue to operate at acceptable service levels during both the morning and evening peak hours with the addition of traffic from the Project.

A typical single-lane roundabout has a capacity of up to 2,000 vehicles per hour or 20,000 vehicles per day. Roundabouts operating below capacity have lower average delay and queue lengths than stop controlled and signalized intersections because all approaches are yield controlled. The yield control permits vehicles to advance through the intersection slowly, thereby allowing for a constant flow of vehicles through the intersection rather than requiring vehicles to come to a complete stop. Roundabouts require traffic on Valley Avenue to slow down approaching the intersection, improving access from the side street without requiring Valley Avenue traffic to come to a complete stop. Based on the peak hour traffic volume forecasts, the expected near-term and cumulative volumes would not exceed capacity of the roundabouts; therefore, the roundabouts are expected to operate at acceptable levels of service through the future as shown in Table 3. Additionally, off-peak delay would be significantly less when conflicting traffic volumes are much lower and vehicles are not required to stop.



**TABLE 3
 PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control ¹	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
1. I-680 Southbound Ramps at Bernal Avenue	Signal	AM	16	B	17	B	49	D	50	D	15	B	15	B
		PM	9	A	9	A	11	B	11	B	10	A	10	A
2. I-680 Northbound Ramps at Bernal Avenue	Signal	AM	17	B	21	C	30	C	36	D	24	C	26	C
		PM	12	B	13	B	15	B	16	B	10	B	11	B
3. Koll Center Drive at Bernal Avenue	Signal	AM	18	B	18	B	21	C	21	C	21	C	21	C
		PM	16	B	17	B	18	B	19	B	18	B	18	B
4. Valley Avenue at Bernal Avenue	Signal	AM	32	C	34	C	33	C	36	D	49	D	53	D
		PM	30	C	32	C	45	D	50	D	44	D	47	D
5. Valley Avenue at Gateway Right-in/Right-out Driveway	SSSC	AM	1 (10)	A (A)	1 (10)	A (A)	1 (12)	A (B)	1 (12)	A (B)	1 (16)	A (C)	1 (17)	A (C)
		PM	1 (10)	A (A)	1 (11)	A (B)	1 (12)	A (B)	1 (14)	A (B)	1 (12)	A (B)	1 (14)	A (B)
6. Valley Avenue at Gateway Commons	Round-about	AM	1	A	1	A	1	A	2	A	2	A	3	A
		PM	1	A	1	A	2	A	2	A	2	A	2	A
7. Valley Avenue at Wild Rose Place (north intersection)	SSSC	AM	1 (11)	A (B)	1 (12)	A (B)	1 (12)	A (B)	1 (13)	A (B)	1 (15)	A (B)	1 (16)	A (C)
		PM	1 (10)	A (A)	1 (9)	A (A)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)



**TABLE 3
 PEAK HOUR INTERSECTION LEVELS OF SERVICE**

Intersection	Control ¹	Peak Hour	Existing		Existing Plus Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³	Delay ²	LOS ³
8. Valley Avenue at Wild Rose Place (south intersection)	SSSC	AM	0 (0)	A (A)	0 (0)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
		PM	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)	1 (1)	A (A)
9. Valley Avenue at East Gate Way	Roundabout	AM	6	A	6	A	8	A	9	A	14	B	16	C
		PM	5	A	5	A	10	A	11	B	10	A	11	B
10. Valley Avenue at Whispering Oaks Way	SSSC	AM	1 (11)	A (B)	1 (11)	A (B)	1 (16)	A (C)	1 (16)	A (C)	1 (27)	A (D)	1 (28)	A (D)
		PM	1 (9)	A (A)	1 (9)	A (A)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)	1 (13)	A (B)
11. Valley Avenue at Oak Vista Way	Roundabout	AM	6	A	6	A	8	A	9	A	14	B	15	C
		PM	5	A	5	A	10	A	10	A	10	A	11	B
12. Valley Avenue at Case Avenue	Signal	AM	27	C	27	C	31	C	31	C	32	C	33	C
		PM	14	B	14	B	16	B	16	B	16	B	17	B

Notes: **Bold** text indicates unacceptable operations based on City's level of service policy.

1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections, traffic from the major roadway does not stop; Roundabout = Roundabout control
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented as intersection average (worst approach)
3. LOS = Level of Service.

Source: Fehr & Peers, April 2013.



Vehicle Queues

The average and 95th percentile Vehicle queues were evaluated for vehicle movements where the project is expected to have an effect on traffic volumes, including intersections along Bernal Avenue and project Driveway intersections on Valley Avenue at Gateway Commons, and Valley Avenue at East Gate Way, as summarized in **Table 4** for the 50th percentile queue and **Table 5** for the 95th percentile queue. The 50th percentile queue is an estimated value from the analysis software which represents the average queue length during the peak hour. The 95th percentile vehicle queue is an estimated value from the analysis software that represents the 95th highest queue out of 100 calculations. For the signalized intersections along Bernal Avenue, there are approximately 35 queue observation periods per hour based on the typical cycle length, so the 50th percentile queue as shown in Table 4 is expected to occur 15 to 20 times per peak hour, whereas the 95th percentile queue as shown in Table 5 is expected to occur 1 to 2 times per peak hour. When 95th percentile vehicle queues that exceed the available storage length coincide with poor service levels, it may take several cycles for vehicle queues to clear. However, when intersections are operating within the expected capacity range, queues tend to clear quickly and do not cause long-term disruptions to the transportation network.

Results of the queuing analysis indicate that vehicles traveling westbound on Bernal Avenue accessing northbound I-680 create queues through the Koll Center Driveway during both the morning and evening peak hours. Vehicle queues also extend beyond the available storage at the I-680 southbound on-ramp from westbound Bernal Avenue. The Project would add traffic to these movements, but is not expected to increase vehicle queues by more than one vehicle.

Recommendation: The Project applicant shall pay their fair share towards planned improvements at the I-680 at Bernal Avenue interchange through the payment of applicable local and regional traffic impact fees. Improvements are planned for both the northbound and southbound ramps.

Vehicle queues periodically spillback from turn-pockets by approximately 5 to 10 vehicles, at the Bernal Avenue at Valley Avenue intersection in the existing and future conditions. As shown in Table 4, the average queue is within the available storage for all scenarios with exception to the future AM peak hour at the westbound left turn pocket. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour.

Vehicle queues spillback in the westbound direction of the Bernal Avenue at I-680 Southbound intersection for existing and future conditions. As shown in Table 4, the average queue for the



westbound left turn movement exceeds the available storage length. However, traffic from the Project does not increase queues by more than one vehicle during either the AM or PM peak hour. As depicted in Table 3, the intersection is anticipated to operate at acceptable levels so vehicle queues are expected to clear quickly.

Vehicle queues at the intersections on Valley Avenue are projected to be minimal in the existing and near-term conditions with the addition of Project traffic. In the cumulative condition with additional through traffic on Valley Avenue, northbound and southbound vehicle queues on Valley Avenue at the Gateway Commons intersection could extend to the adjacent right-in/right-out intersections; however, the southbound vehicle queue is not expected to extend to Bernal Avenue, nor is the northbound queue expected to block access to the southern Wile Rose Place. As the intersection is projected to operate at acceptable levels, the vehicle queues are expected to clear quickly.

Recommendation: Periodically monitor the operation of the Valley Avenue at Gateway Commons intersection as the study area is developed over time and traffic volumes increase.

**TABLE 4
 50TH PERCENTILE VEHICLE QUEUES IN FEET¹**

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	210	90	225	95	285	155	300	160	275	85	280	90
	Westbound Thru	475	25	20	25	20	35	35	40	35	85	50	85	50
	Eastbound Thru	400	315	145	325	150	700	200	710	205	330	165	340	170
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	115	30	155	40	370	45	410	55	60	0	70	0
	Westbound Thru	560	120	25	125	80	185	145	195	150	600	180	645	190
	Northbound Right	350	10	60	10	65	40	85	40	95	70	35	75	40
	Eastbound Left	150	70	30	70	30	90	40	90	45	200	25	200	30
	Eastbound Thru	475	55	135	55	150	150	215	130	245	160	105	165	115
Koll Center Drive at Bernal Avenue	Westbound Thru	520	250	115	270	125	335	170	360	180	400	165	420	170
	Westbound Left	195	25	30	25	30	45	40	45	45	45	40	45	45
	Northbound Left	380	75	70	85	75	115	100	115	100	115	100	125	100
	Northbound Thru/Right	380	15	5	15	10	20	20	20	20	20	15	25	15
	Eastbound Left	280	80	10	85	10	125	15	125	15	125	10	130	10
	Eastbound Thru	560	75	150	80	160	200	200	125	215	120	145	125	160
Valley Avenue at Bernal Avenue	Westbound Thru	700	305	195	310	200	305	210	315	210	410	205	410	205
	Westbound Left	175	35	55	35	65	110	130	120	145	285	160	295	175
	Northbound Left	280	100	45	125	55	105	145	130	175	125	120	160	135
	Northbound Thru	450	45	25	55	35	105	125	125	135	220	130	240	140
	Northbound Right	170	--	--	--	--	--	--	--	--	--	--	5	--
	Eastbound Left	510	70	120	70	130	55	150	60	155	55	90	55	90
	Eastbound Thru	510	145	295	150	315	235	370	245	375	290	300	290	305
	Southbound Left	200	45	70	45	75	65	155	65	155	90	190	90	195
Southbound Thru	500	180	130	190	150	155	170	175	185	315	165	325	175	
Southbound Right	200	65	0	65	7	115	15	125	15	170	5	170	10	



**TABLE 4
 50TH PERCENTILE VEHICLE QUEUES IN FEET¹**

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	--	--	--	5	5	--	5	--	5	--	10	--
	Southbound	170	25	10	35	10	45	55	60	70	80	55	125	70
	Northbound	180	10	10	15	20	30	35	35	50	75	35	85	50
Valley Avenue at East Gate Way	Eastbound	110	5	--	5	5	--	--	5	--	5	--	5	--
	Southbound	210	20	5	20	5	35	45	35	50	75	45	80	50
	Northbound	250	5	10	10	20	20	25	25	35	75	25	85	35

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

1. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.
2. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.



**TABLE 5
 95TH PERCENTILE VEHICLE QUEUES IN FEET¹**

Intersection	Movement	Available Storage ²	Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
I-680 Southbound Ramps at Bernal Avenue	Westbound Left	210	320	190	340	195	460	270	490	280	385	150	370	155
	Westbound Thru	475	40	30	40	30	50	50	50	50	120	80	125	80
	Eastbound Thru	400	615	270	620	280	940	370	945	385	530	295	545	300
I-680 Northbound Ramps at Bernal Avenue	Westbound Right	560	570	570	580	580	680	580	730	560	260	55	280	60
	Westbound Thru	560	215	140	225	150	330	270	340	280	915	330	960	390
	Northbound Right	350	45	115	45	130	85	85	40	195	120	70	125	80
	Eastbound Left	150	135	74	135	70	165	110	165	115	325	65	325	65
	Eastbound Thru	475	100	241	100	270	220	410	225	455	265	180	265	205
Koll Center Drive at Bernal Avenue	Westbound Thru	520	530	265	555	270	670	325	705	335	700	315	760	325
	Westbound Left	195	85	100	85	110	110	120	110	135	110	120	110	135
	Northbound Left	380	160	165	170	165	190	200	195	215	185	205	190	210
	Northbound Thru/Right	380	55	57	55	60	65	80	65	85	65	70	65	75
	Eastbound Left	280	180	40	175	40	215	50	215	50	230	35	230	35
	Eastbound Thru	560	165	315	170	330	240	380	240	400	235	285	240	300
Valley Avenue at Bernal Avenue	Westbound Thru	700	470	305	470	305	470	295	470	295	600	290	600	290
	Westbound Left	175	80	125	85	145	240	280	250	320	515	370	525	400
	Northbound Left	280	200	95	260	110	210	300	265	330	230	250	285	280
	Northbound Thru	450	85	60	110	70	175	195	200	210	315	200	365	210
	Northbound Right	170	15	25	25	30	30	35	35	40	30	40	45	45
	Eastbound Left	510	125	280	130	280	105	330	110	330	95	175	95	175
	Eastbound Thru	510	250	600	255	600	365	635	365	640	400	495	400	510
	Southbound Left	200	85	140	85	140	115	315	115	315	145	145	140	365
	Southbound Thru	500	320	250	335	270	315	285	345	310	590	275	600	295
	Southbound Right	200	145	40	145	50	215	60	225	70	285	50	285	60



**TABLE 5
 95TH PERCENTILE VEHICLE QUEUES IN FEET¹**

Intersection	Movement	Available Storage ²		Existing		Existing With Project		Near-Term Without Project		Near-Term With Project		Cumulative Without Project		Cumulative With Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Valley Avenue at Gateway Commons	Eastbound	360	5	12	10	15	25	25	35	20	25	40	35	315	125
	Southbound	170	25	25	30	45	80	125	175	185	85	195	135	315	175
	Northbound	180	60	20	85	30	110	135	155	155	175	180	110	200	125
Valley Avenue at East Gate Way	Eastbound	110	--	--	5	5	10	5	10	--	5	15	5	15	5
	Southbound	210	20	20	20	30	50	60	60	180	65	205	80	205	80
	Northbound	250	45	15	45	15	85	90	90	180	110	200	110	200	125

Notes: **BOLD** indicates 95th percentile queue could exceed storage length.

3. 95th Percentile Vehicle queue (in feet) as calculated by Synchro. Bold indicates vehicle queues will extend beyond the available storage space.
4. Vehicle storage presented in feet, not accounting for the bay taper. Where two numbers are presented, the first number represents vehicle storage without the Project and the second number represented vehicle storage with the Project.

Source: Fehr & Peers, April 2013.



SITE ACCESS AND ON-SITE CIRCULATION

This section discusses site access and internal circulation for vehicles, pedestrians, bicycles, and emergency vehicles based on the site plan presented previously on Figure 2. A parking assessment was also conducted. Site recommendations are presented on **Figure 10**.

Vehicle Access

Vehicular access to the site would be provided from a connection to Gateway Commons and a new roadway connecting to Valley Avenue at East Gate Way. Both driveways would provide full access and are projected to operate acceptably during peak hours as shown in Table 3. Provision of a vehicle connection to Whispering Oaks Way would not be necessary to provide acceptable vehicle operations on Valley Avenue.

Recommendation: Install all-way stop-control at the Street B/Gateway Commons intersection.

The full access driveway on Valley Avenue would align with the existing roundabout on E. Gate Way.

Recommendation: Maintain landscaping on the northwest corner of the intersection to avoid sight distance conflicts (shrubs should not be higher than approximately 30 inches and tree canopies should be approximately six feet from the ground).

Proposed streets providing the main connections through the site and limited driveway access are proposed to be 36 feet wide with parallel parking on both sides. Courts would provide garage access to most of the single-family homes with a width of 24 feet without parking, or 26 feet if perpendicular parking is provided on one side of the street.

GENERAL RECOMMENDATIONS:

- Encourage residents to move-in/move-out during off-peak hours.
- Allow delivery/moving trucks to park in multiple parallel parking stalls.
- Provide transit information to future residents.
- The fire department should review the site plan for fire hydrant placement and emergency vehicle access.

Reduce sight distance conflicts by maintaining landscape at driveway intersections

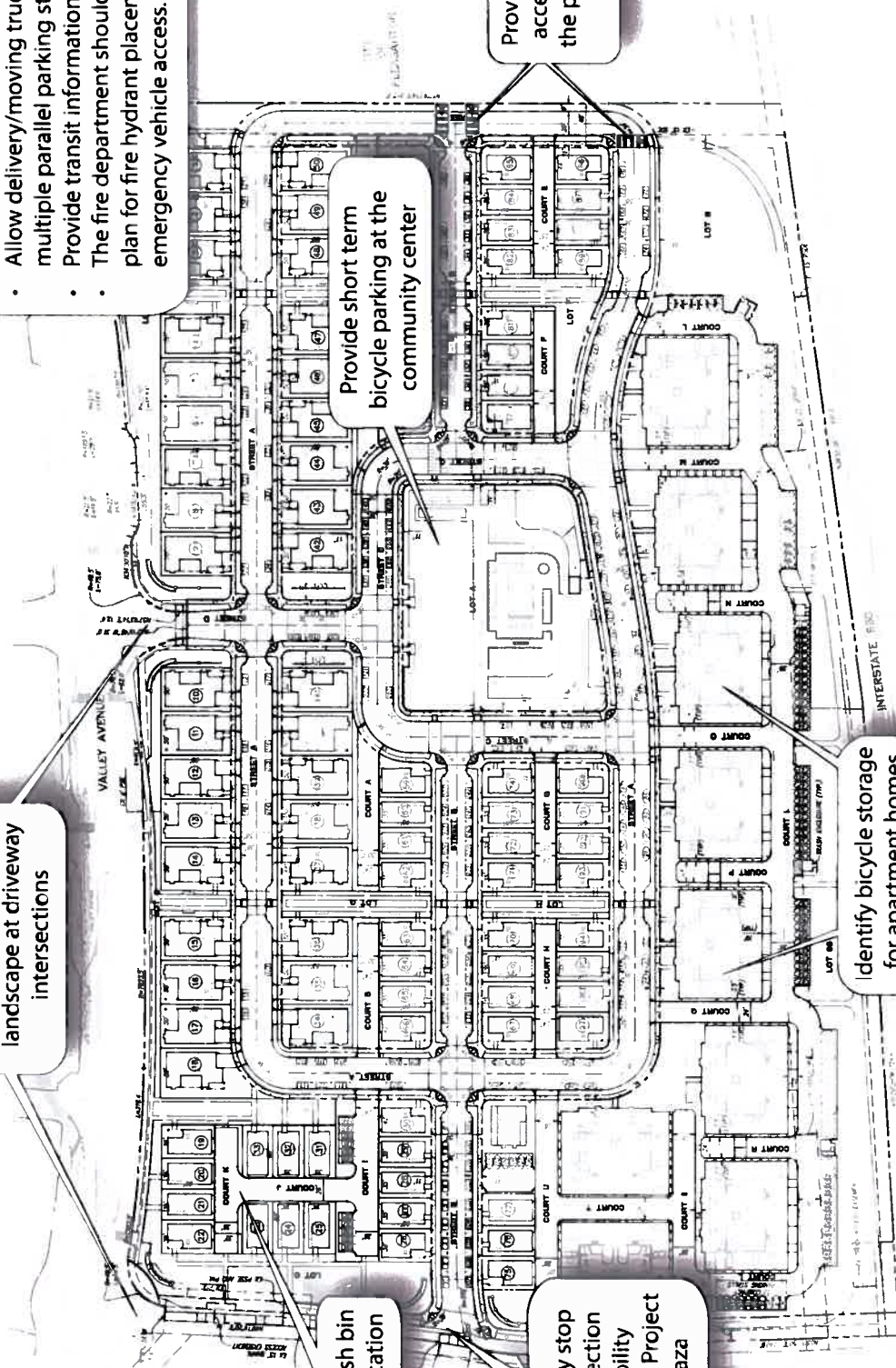
Identify trash bin pick-up location

Provide an all-way stop controlled intersection and a high-visibility crosswalk from the Project to Gateway Plaza

Provide short term bicycle parking at the community center

Provide crosswalks and access gates between the project, open space and trail.

Identify bicycle storage for apartment homes



SITE PLAN SOURCE: Ruggieri-Jensen-Azar

Figure 10.

Consultant Site Plan Recommendations





Emergency Vehicles

A fire station is located on Bernal Avenue approximately 1/4-mile from the Project site. Emergency vehicles have multiple ways of accessing the site from Bernal Avenue and Valley Avenue so if one entrance is blocked, alternative access would be available. An AutoTurn assessment indicates that a large fire truck would enter into the opposite travel lane when navigating through the site. Large emergency vehicles may have difficulty accessing homes on Courts J and K.

Recommendation: The fire department should review the site plan for fire hydrant placement and emergency vehicle access. Results of the AutoTurn assessment are shown on **Figure 11** for their use in reviewing site access and circulation.

Pedestrian

As part of the Project, new pedestrian paths could be constructed within the Project site and connect to the existing pedestrian facilities on Valley Avenue. Curb extensions and high visibility crosswalks at intersections would alert drivers to expect pedestrian traffic. Pedestrian paths and plazas would be constructed to facilitate walking throughout the site. Most internal roadways provide sidewalks on both sides of the street with exception to some of the Court frontage. External roadways on Valley Avenue and Gateway Commons provide sidewalk along both sides of the street.

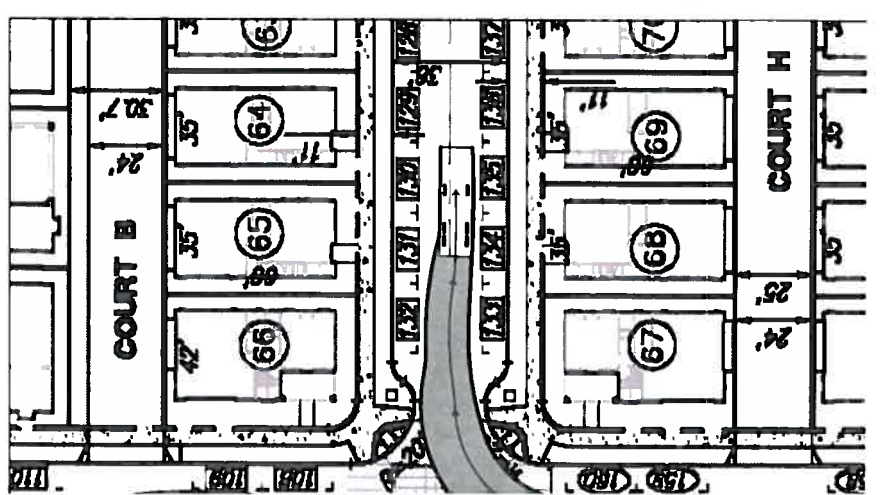
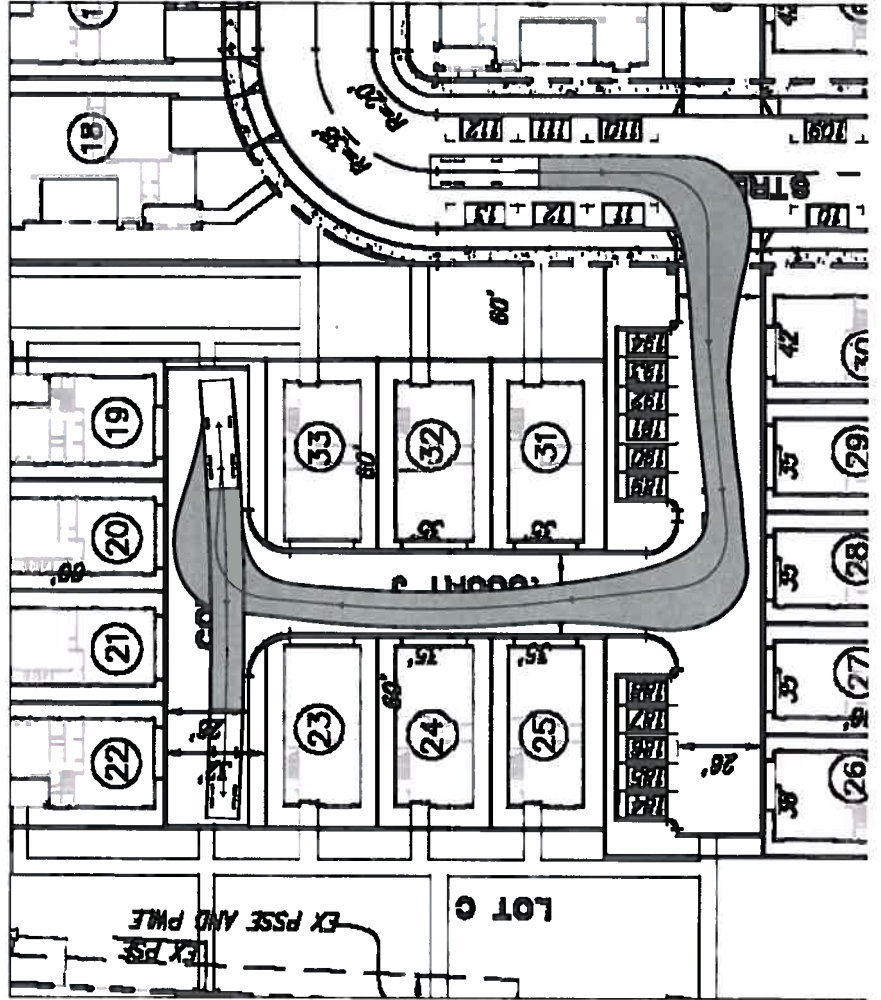
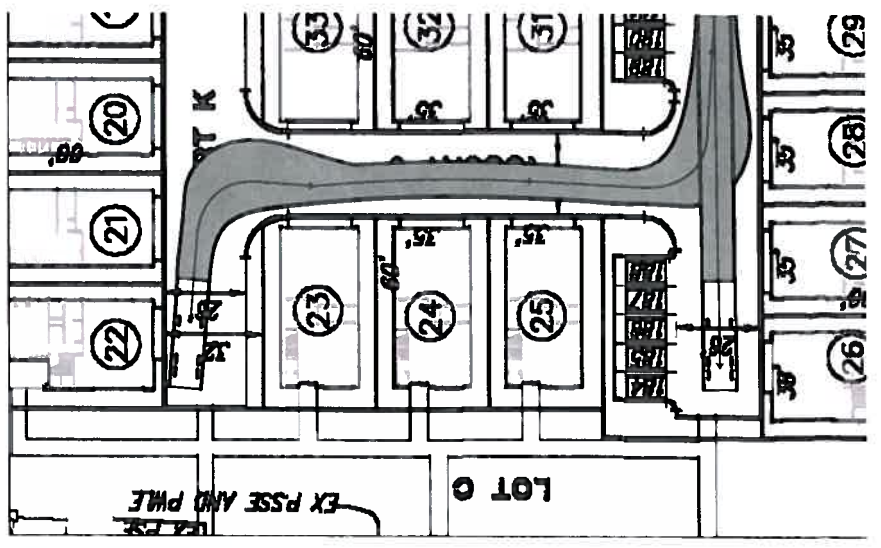
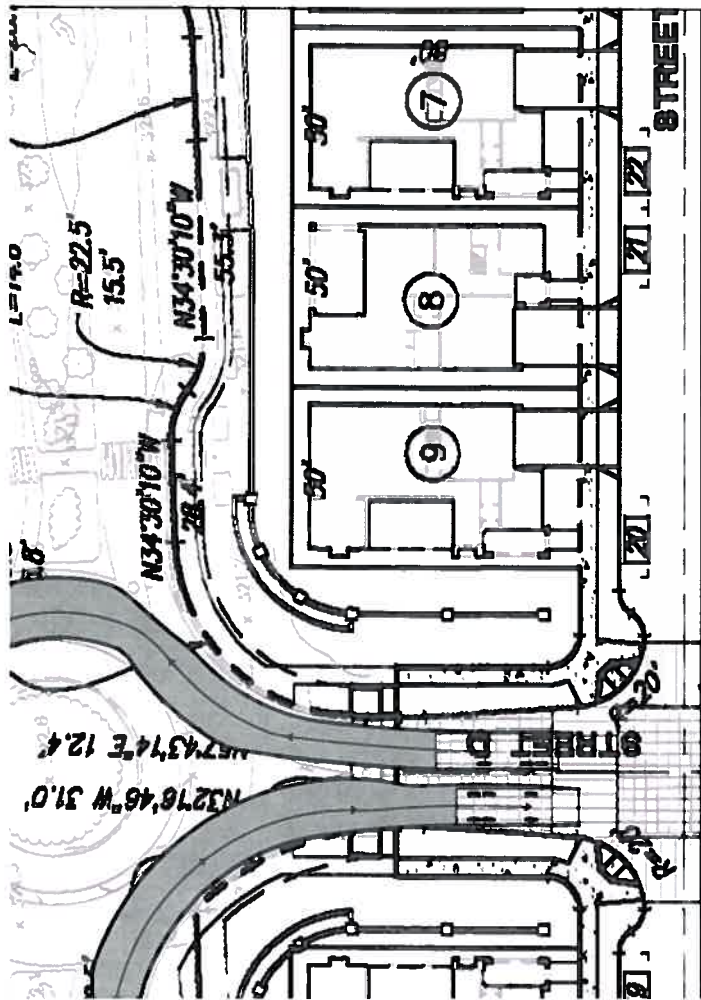
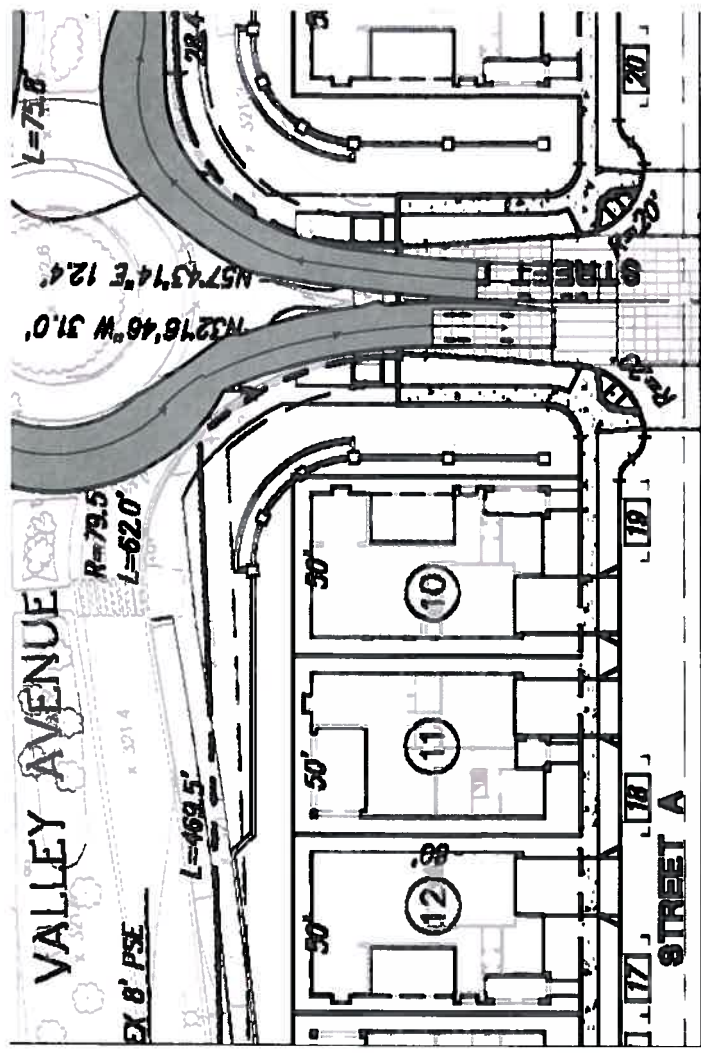
Recommendation: Provide a high-visibility crosswalk from the Project to the Gateway shopping center on the east leg of Gateway Commons and Street B, to enhance pedestrian connectivity.

Bicycle

Class II bicycle facilities (bike lanes) are currently provided on Valley Avenue along the Project frontage. The Project proposes a trail connection on the south-west side of the Project to a proposed Regional class III trail which parallels I-680. The Project would connect to the proposed trail from Street A and Street B.

Recommendation: Provide a pedestrian crosswalk across Street A to connect the Project to the trail entrances.

Recommendation: Provide access gates between the open space, trail and the Project along Street A to encourage residents to use the trail and open space.





Bicycles would be permitted within the Project vehicular travel way. Bicycle parking is not shown on the site plan, but it is anticipated that future residents of the single family homes would be able to store bicycles within their private garages.

For the multi-family portion of the site 0.8 secure and weather protected bicycle parking spaces per unit are required, resulting in a requirement of 168 long-term bicycle parking spaces for the 210 apartment units. As each apartment unit would be provided a private garage, the garages should be large enough for storage of a bicycle and a vehicle or bicycle storage rooms should be provided throughout the apartment community. Additionally, short term bicycle parking should be provided at the community center.

Recommendation: Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.

Transit

Wheels currently serve the Project area with stops along Valley Avenue, Bernal Avenue, and Case Avenue. No changes to the number of transit stops or level of transit service are proposed as part of the Project. Additional transit facilities are located in the Project area such as the ACE and BART station located approximately 1 mile and 5 miles away, respectively.

Recommendation: Provide information to new residents regarding transit service provided in the area.

Delivery Vehicle Access

Access to the site by moving trucks, furniture delivery, and trash collection vehicles are expected to occur on a regular basis. No designated loading areas are shown on the site plan. For the majority of single family homes, delivery/moving vehicles would be able to park on the street in close proximity to the destination. For some homes on Courts J and K, internal access may be constrained and delivery vehicles may stop on Valley Avenue or Gateway Commons, which should not be allowed. For deliveries/moving in the apartment home area, trucks may park on the internal drive aisle temporarily blocking two-way travel on some of the Court Streets.

Recommendation: Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel



parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.

Trash collection areas are shown throughout apartment home area and it is assumed that each single family home would have their own private trash containers to be set at the curb on designated collection days. Trash collection vehicles may have difficulty accessing private garbage containers from homes Court J and K and trash containers may need to be picked up from Street A. Should all ten homes from Courts J and K place trash containers on Street A and when on-street parking supplies are at a high level of occupancy, there may not be sufficient curb space for 20 trash containers (assuming one trash and one recycle container per unit)

Recommendation: Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.

Parking

City of Pleasanton requirements for parking were reviewed. For apartment uses, 1.5 to 2 spaces are required for each unit with an additional 1 guest space for each 7 units, resulting in a parking code requirement of 351 spaces for the apartment portion of the project, as shown in **Table 6**. For the single family units, each unit is required to provide 2 spaces per unit, a total requirement of 194 spaces. The apartment portion of the project proposes to provide 216 private garage spaces and 111 off-street parking spaces, for a total off-street parking supply of 327 spaces, a deficit of 24 spaces as compared to code requirements. Each single family home would have a private two car garage and approximately 81 units would have a driveway of sufficient length to accommodate a parked vehicle, satisfying parking code requirements.

On-street parking is also provided, with approximately 183 spaces dispersed throughout the development. Although on-street parking cannot be counted towards the code required parking, as sufficient private reserved parking is provided and guest parking demand would be accommodated by the on-street parking, provision of additional off-street parking is not recommended.



**TABLE 6
 CITY CODE AUTOMOBILE PARKING REQUIREMENTS**

Land Use	Size	Parking Code Requirement	Parking Spaces Required	Private Garage Spaces	Off-Street Spaces ¹	Total
Apartments – First Four 1-2 Bedrooms	4 units	2 per unit	8			
Apartments –1-2 Bedrooms	198 units	1.5 per unit	297			
Apartments – 3+ Bedrooms	8 units	2 per unit	16	216	111	327
Apartment Guests	210 units	1 per 7 units	30			
Sub-Total	210 units	~2 per unit	351	216	111	327
Single Family Detached Housing	97 units	2 per unit	194	194	81	275
Total	307 units	~2 per unit	545	410	192	602

Notes:

1. Off-street spaces measured by number of single family dwelling unit driveways
- Source: City of Pleasanton Municipal Code Section 18.88.030.

Americans with Disability Act parking requirements for apartments were calculated. ADA requires 2 percent accessible parking per assigned garage parking, 2 percent accessible per assigned on-street parking, and 5 percent accessible per unassigned and visitor parking, resulting in an accessible parking requirement of approximately 10 spaces. The Project proposes to include 11 accessible spaces.

CONCLUSIONS AND RECOMMENDATIONS

With construction of the Project, vehicular traffic to the site is expected to operate at acceptable levels of service and even with projected growth in the City, intersections along Bernal Avenue are projected to operate at LOS D or better during the weekday morning and evening peak hours evaluated for this study. With the expected growth, the City should monitor gateway intersections and provide appropriate improvements to minimize poor operations and spillback



to adjacent intersections. The Near-term analysis recommends improvements for Bernal Avenue at the I-680 intersections before the Cumulative year.

Based on our site plan review, the following are recommended for consideration in development of the final site plan:

- Reduce sight distance conflicts by restricting parking on Gateway Commons, approaching Valley Avenue and maintain landscaping at the Valley Avenue at Gateway Commons intersection
- Review trash collection procedures for the site with Pleasanton Garbage Service to ensure all homes within the development can be served.
- Encourage residents to conduct move-in/move-out large vehicle maneuvers during off-peak hours, such as mid-day or weekends, to minimize potential internal vehicle conflicts. Allow delivery moving trucks/delivery vehicles to park in parallel parking stall(s) on the designated Streets within the development to maintain two-way travel on internal roadways.
- Provide information to new residents regarding transit service provided in the area.
- Identify bicycle storage for the apartment homes and provide short term bicycle parking at the community center.
- The fire department should review the site plan for fire hydrant placement and emergency vehicle access.

Technical Attachments:

A – Intersection Level of Service (LOS) Methods

B – Existing (2013) Traffic Count Sheets

C – Level of Service Reports

D – Signalized Intersection Queuing Reports

The Commons at Gateway

Pleasanton, California

Environmental Noise Assessment

11 June 2013

Prepared for:


Pleasanton Gateway, LLC

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CSA Project Number: 12-0519

INTRODUCTION

This report summarizes our environmental noise assessment for The Commons at Gateway residential project in Pleasanton, California. The purpose of this study is to quantify the noise environment, compare it with City and State goals for environmental noise, and propose conceptual noise mitigation measures as needed based on the current site plan.

Following is a summary of our findings:

1. The project will incorporate sound-rated windows, doors and exterior walls into the building shell(s) to reduce traffic noise to DNL¹ 45 dB² or lower indoors. Preliminary estimates suggest that sound insulation ratings up to approximately STC³ 39 will be sufficient for residences along Interstate 680.
2. Ventilation or air conditioning systems will be provided in apartment units so the interior noise goal will be met if occupants desire to close their windows.
3. The proposed apartment buildings, noise berm/barrier in the southern portion of the site, and selected row house yard barriers, will reduce estimated traffic noise in the central park and pool area, and single-family house yards, to between approximately DNL 60 to 65 dB.
4. Noise from mechanical equipment, such as air-conditioning equipment, must meet the Pleasanton Municipal Code limits. This should be evaluated in detail when equipment types, locations and sizes are selected.

DESCRIPTION

The project will consist of 97 detached houses and 210 rental apartment units in nine buildings on a 26.7-acre site between Interstate 680 (I-680) and Valley Avenue (see Figure 1, attached). Detached houses will consist of 62 three-story row houses and 35 two-story single-family houses, most of which will be partially shielded from I-680 by the three-story apartment buildings. Outdoor use space will include a 1.3-acre community park, and individual yards for single-family houses. Amenities associated with the community park will include a business center, conference facilities, workout area, pool, barbeque, fire pit, and tot lot.

The site is generally flat, with approximately a five foot elevation differential which ranges from about three to eight feet below the elevation of I-680. Existing residences are located across I-680 to the southwest, shielded from the freeway by an earthen berm, and across Valley Avenue to the northeast. A commercial development borders the site to the north, between the site and Bernal Avenue. Stores include Safeway and CVS, which both have loading docks adjacent to the northern portion of the site.

¹ Day-Night Average Sound Level (DNL) – A descriptor established by the U.S. Environmental Protection Agency to describe the average day-night level with a penalty applied to noise occurring during the nighttime hours (10 pm – 7 am) to account for the increased sensitivity of people during sleeping hours.

² A-Weighted sound pressure level (or noise level) represents the noisiness or loudness of a sound by weighting the amplitudes of various acoustical frequencies to correspond more closely with human hearing. A 10-dB (decibel) increase in noise level is perceived to be a doubling of loudness. A-Weighting is specified by the U.S. EPA, OSHA, Caltrans, and others for use in noise measurements. All sound levels (dB) in this document are A-weighted.

³ Sound Transmission Class (STC) – A single-number rating derived from the sound insulation properties of a partition. Numerically, STC represents the number of decibels of speech sound reduction from one side of the partition to the other.

ACOUSTICAL CRITERIA

The Pleasanton General Plan

The Noise Element of the Pleasanton General Plan 2005-2025, adopted 21 July 2009, contains land use compatibility guidelines for environmental noise in the community. Table 1, below, summarizes these guidelines for residential land uses and park areas.

Table 1: Summary of Table 11-5: Noise and Land Use Compatibility Guidelines

DNL Value in Decibels			Compatibility Level
Detached Residential	Multi-Family Residential	Parks and Recreation Areas	
60 dB or less	65 dB or less		<i>Normally Acceptable</i> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.
60 to 75 dB	65 to 75 dB	65 to 80 dB	<i>Conditionally Acceptable</i> Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.
Greater than 75 dB		Greater than 80 dB	<i>Unacceptable</i> New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

In addition to the land use compatibility guidelines, the Noise Element outlines the following noise level goals:

- Interior noise goal of DNL 45 dB or lower for all single and multi-family residences.
- Maximum instantaneous noise level goals indoors, when the noise source is rail activity or aircraft. The project site is located far outside both the DNL 60 dB railroad noise contour and the CNEL 60 dB airport noise contour for Livermore Municipal Airport. Therefore, this analysis assumes these instantaneous noise level goals do not apply.

The Final Supplemental EIR for General Plan Amendment and Rezoning, dated December 2011, identifies DNL 65 dB as the outdoor noise goal for residential outdoor use spaces.

Pleasanton Municipal Code

Section 9.04.030 of the Pleasanton Municipal Code limits noise levels from mechanical equipment such as air-conditioners to 60 dB at residential property lines. Section 9.04.100 limits construction noise to the levels indicated in the Construction Noise section below.

California Building Code (CBC)

The California Building Code limits indoor noise from outdoor sources to DNL 45 dB in habitable rooms of attached housing.⁴ Projects exposed to an outdoor DNL greater than 60 dB require an acoustical analysis during the design phase showing that the proposed design will limit outdoor noise to the prescribed allowable interior level. Additionally, if windows must be closed to meet the interior standard, "the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment."

⁴ 2010 California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 12, Section 1207: Sound Transmission.

NOISE ENVIRONMENT

Environmental noise at the site is primarily from vehicle traffic on I-680. To quantify the existing noise environment, two long-term monitors each continuously measured noise levels at the site between 13 and 15 January 2010, between 6 and 8 July 2011, and between 5 and 7 November 2012. In addition, short-term "spot" measurements were conducted and compared with corresponding time periods of the long-term monitors to determine how noise levels vary at different locations on-site and at different elevations. Table 2 summarizes existing noise levels at the site. Figure 1, attached, shows approximate measurement locations.

Table 2: Existing Noise Environment

Site	Location	Date / Time	DNL
LT-1	I-680 Monitor Approximately 155' NE of I-680 centerline, 12' above ground	January 2010 July 2011	74 dB
LT-2 and LT-3	Valley Avenue Monitor Approximately 12' SW of from near lane centerline, 12' above ground	and November 2012 ⁵	62 to 67 dB
ST-1	I-680 Spot Measurement Approximately 155' NE of I-680 centerline, 10' / 40' above ground	15:45 to 16:00 15 Jan 2010	72 / 75 dB

The Circulation Element of the Pleasanton General Plan 2025 indicates that peak-hour traffic volumes along I-680 are expected to increase by up to 14 percent in the year 2025. This corresponds with approximately a 1-decibel increase in environmental noise. The estimated future noise level at the setback of future homes along I-680, based on this increase in future traffic, is shown in Figure 1, attached.

ANALYSIS AND RECOMMENDATIONS

Environmental Noise

As indicated in Figure 1 attached, estimated future noise levels range from approximately DNL 60 to 75 dB across the site, and DNL 76 dB along the pedestrian / bike trail. This falls into the *conditionally acceptable* category for land use compatibility. The following is based on the preliminary floor plans and elevations dated 10 January 2013.

1. The project will incorporate sound-rated elements into the building shell to reduce environmental noise to DNL 45 dB or lower indoors.
 - Apartments - To provide an estimate of the extent of mitigation that may be needed, preliminary estimates assume a 12-foot by 14-foot room with approximately one-third of one or two exterior facades consisting of windows, and exterior walls consisting of 3-coat stucco over wood sheathing, insulation in stud cavities, and one layer of gypsum board on the interior (two layers on the I-680 façade). Based on these assumptions, preliminary estimates suggest that windows in rooms along I-680 will need to be in the range of STC 35 to 39, and windows in rooms perpendicular to I-680 will need to be in the range of STC 32 to 36. On the façade opposite the freeway, and in the shielded courtyards, needed sound insulation ratings are expected to be STC 30 or lower.
 - Detached Houses – Based on the preliminary site and floor plans provided, initial estimates suggest that windows and doors with sound insulation ratings up to STC 36 will be needed in the homes closest to I-680, and that STC ratings will decrease at houses located farther from the roadway and where they are shielded by barriers or other buildings.

⁵ The adjacent Safeway and CVS stores appeared to be operational and open during the November 2012 measurements.

- Sound insulation will need to be determined during the design phase, when floor plans and final grading plans are known, and should include treatment for roof vents and other penetrations.
- 2. Window and door sound insulation ratings must be for the complete assemblies, including frames and operable sashes. Sound insulation ratings should be from tests conducted by an NVLAP accredited laboratory. For reference, standard dual-pane construction-grade windows and sliding glass doors have sound insulation ratings in the range of STC 26 to 28. Sound insulation ratings of up to STC 36 can typically be achieved using high quality insulated windows with glazing selected to meet the required ratings. Sound insulation ratings between STC 36 and 39 can be achieved by some specialty window manufacturers by using 1-inch or 1¼-inch glazing sections. Ratings above STC 39 typically require dual sash or "four track" windows.
- 3. Since windows of the apartment units will need to be closed to meet the interior noise criterion, the design will include "... a ventilation or air-conditioning system to provide a habitable interior environment." This will be coordinated with the project mechanical engineer so as not to compromise sound insulation of the exterior assemblies.
- 4. Noise levels in outdoor spaces will vary, depending on the location and orientation on site. The site plan shows the community park and pool in the center of the site, which will be mostly shielded from I-680 by the apartment buildings. As shown in Figure 1, the design will include a 16-foot tall combination earthen berm (8-foot) and noise barrier (8-foot) in the southern portion of the site, and 8-foot tall noise barriers at selected yards of detached houses. Following are initial comments that assume the site grade will not change significantly in the future.
 - Apartments – As shown in the preliminary site plan, the combined distance and shielding from the proposed apartment buildings will reduce estimated future traffic noise in the community park and pool area to approximately DNL 65 dB or lower. This is consistent with the City's goal for this space.
 - Detached Houses –
 - o At the setback of the proposed houses nearest to I-680, estimated future un-shielded traffic noise (at the second and third stories), is approximately DNL 73 dB. The planned 16-foot tall earthen berm and noise barrier, and noise barriers at detached houses, will reduce traffic noise to approximately DNL 65 dB and below in shielded yards at-grade.
 - o Along Valley Avenue, it is assumed that homes will front the roadway with side or rear yards. Shielding from the proposed homes will reduce estimated traffic noise to between approximately DNL 60 and 65 dB in these yards.
 - Pedestrian / Bike Trail – Estimated future traffic noise along the pedestrian / bike trail is approximately DNL 76 dB.
 - Effective noise barriers must be solid from bottom to top with no cracks or gaps, and must have a minimum surface density of approximately three pounds per square foot. Barriers may be constructed of a variety of materials including earthen berms, CMU, and plaster walls. Options include a combination of more than one material, such as a CMU wall atop an earthen berm.
- 5. The northern portion of the site is located adjacent to commercial businesses which include a Safeway loading dock and CVS drive-through pharmacy. The north westernmost apartment building will be located approximately 65 feet from the nearest drive isle and 145 feet from Safeway's loading dock. The nearest homes to CVS's drive-through will be approximately 150 feet away. The businesses are constrained by conditions of approval included in PUD-02-07M, dated 19 October 2010, which includes the following provisions for loading/off-loading activities and drive through activities.
 - Safeway delivery/loading/unloading hours are limited to between 6:00 AM and 12:00 PM (midnight)
 - CVS drive-through pharmacy activity is limited to pharmaceutical purchases only
 - Parking lot sweeping and garbage pick-up is limited to between 6:00 AM and 10:00 PM
 - Delivery trucks and vendors shall access the site via Bernal AvenueThe adjacency of the site to the retail space to the north should be disclosed to potential residents,

and they should expect to hear some noise from commercial activity, including Safeway's loading docks.

TRAFFIC NOISE ASSOCIATED WITH THE PROJECT

Project-generated traffic volumes are provided in a letter titled Trip Generation Analysis for Residential Development of Bernal Property, dated 8 November 2012, by Hexagon Transportation Consultants, Inc. The letter indicates that traffic volumes associated with the project will be less than both the previously planned and approved office project, and the recently re-designated residential use for the site. Corresponding noise levels from project-generated traffic will be less at off-site residences than they would have been with either of those projects. Further, based on the peak-hour traffic volumes included in the letter, and noise levels measure at the site, estimated traffic noise from vehicles associated with the project will increase environmental noise levels (DNL) at residence across Valley Avenue from the site by 2-decibels or less. This is generally considered a less-than-significant increase.

MECHANICAL EQUIPMENT NOISE ASSOCIATED WITH THE PROJECT

Stationary noise sources associated with the project may consist of residential air-conditioning units. Units should be selected and located to meet the City's Municipal Code limit of 60 dB at adjacent residential property lines. Mitigation for these types of sources generally consists of selecting quiet units and locating far from property lines. Details should be determined during the design phase.

CONSTRUCTION NOISE

The project shall incorporate the following guidelines to reduce the potential impact of construction noise. These guidelines are taken from Noise Mitigation Measure 4.J-1 from the Final Supplemental EIR, General Plan Amendment and Rezoning report dated December 2011.

- Comply with the applicable construction noise exposure criteria established in the Pleasanton Municipal Code, Section 9.04.100.
 - Notwithstanding any other provision of this chapter, between the hours of 8:00 a.m. and 8:00 p.m. daily, except Sunday and holidays, when the exemption shall apply between 10:00 a.m. and 6:00 p.m., construction, alteration or repair activities which are authorized by valid city permit shall be allowed if they meet at least one of the following noise limitations.
 - No individual piece of equipment shall produce a noise level exceeding 83 dB at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible; or
 - The noise level at any point outside of the property plane of the project shall not exceed 86 dB.
- Locate stationary construction equipment as far from adjacent occupied building as possible.
- Select routes for movement of construction-related vehicles and equipment so that noise-sensitive areas, including residences, and outdoor recreation areas, are avoided as much as possible. Include these routes in materials submitted to the City of Pleasanton for approval prior to the issuance of building permits.
- All site improvements and construction activities shall be limited to the hours of 8:00 a.m. to 5:00 p.m., Monday through Saturday. In addition, no construction shall be allowed on State and federal holidays. If complaints are received regarding the Saturday construction hours, the Community Development Director may modify or revoke the Saturday construction hours. The Community Development Director may allow earlier "start-times" for specific construction activities (e.g., concrete-foundation/floor pouring). If it can be demonstrated to the satisfaction of the Community

Development Director that the construction and construction traffic noise will not affect nearby residents.

- All construction equipment must meet DMV noise standards and shall be equipped with muffling devices.
- Designate a noise disturbance coordinator who will be responsible for responding to complaints about noise during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site and shall be provided to the City of Pleasanton. Copies of the construction schedule shall also be posted at nearby noise-sensitive areas.

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● INDICATES APPROXIMATE NOISE MEASUREMENT LOCATION
 NOTE: DRAWING PROVIDED BY OTHERS, NO SCALE

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THE COMMONS AT GATEWAY SITE PLAN INDICATING ESTIMATED FUTURE NOISE ENVIRONMENT

FIGURE 1

CSA PROJECT NO. 12-0519
 10 JUNE 2013
 JMR

**CLIMATE ACTION PLAN
CHECKLIST**

Project Name: Commons @ Gateway **Project Address:** 1600 Valley Ave. Pleasanton, CA.

Case No.: PUD. 96 **Residential Units:** 210 Apartments/ 97 SF Homes **Sqft. of Com./Office/Mixed-Use Area:** N/A

Project Aspects that reduce Greenhouse Gas (GHG) Emissions		Yes	No	N/A	Comments
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LU1: Support Infill and High Density Development

LU1-2	Project is infill development within the existing urban fabric that helps complete, reinforce, and repair the surrounding area.	X			
LU1-3	Project is mixed-use development which incorporates higher density and affordable residential units consistent and with the Downtown Specific Plan with easy access to activity areas. (Applies to projects in the downtown area only).			X	
LU1-4	Project is transit-oriented development near BART station, along transportation corridors, in business parks, and/or in the downtown area.	X			
LU1-5	Project is high density development near and/or around transportation hubs and employment centers.	X			
LU1-8	Project is TOD (transit oriented development); located within 1/4 mile of commuter rail, BART, and other transportation hubs.			X	But it does have LAVTA 8A/8B
LU1-7	Project incorporates affordable housing on a vacant infill site.	X			

LU2: Support Mixed-use Infill and New Development near Local-serving Commercial Areas

LU2-1	Project is located within convenient walking distance to work, residences, and services.	X			
LU2-2	Project provides new housing and/or new employment located within 1/4-mile walking/biking proximity of complementary land uses, including retail, employment, institutional, or recreational.	X			
LU2-4	Project reconnects streets and adds streets; minimizes parking to below code requirements; and includes attractive and functional urban plazas. (Applies to development near Pleasanton BART station in Hacienda and development near West Pleasanton BART)			X	
LU2-8	Project includes live-work units.			X	Adjacent to Koll Center
LU2-10	Project incorporates elements of LEED for Neighborhood Development (LEED ND)	X			

LU3: Improve Transportation Efficiency through Design Improvements

LU3-1	Project provides key services within a 1/4-mile walking distance of residential clusters or areas (Applies to non-residential projects)			X	
LU3-2	Project provides building, landscape, and streetscape development design features that encourage transit, bicycle, and pedestrian access.	X			
LU3-3	Project encourages transit use and provides pedestrian and bicycle facilities.	X			
LU3-4	Project provides infrastructure to facilitate 'NextBus' technologies for tracking buses and predicting arrival times. (Applies to projects that include two or more bus shelters.)			X	
LU3-5	Project provides street improvements that meet the municipal street standards and AB 1358 Complete Streets and increase the safety, convenience, and efficiency of pedestrians, bicyclists, motorists, and transit riders.	X			
LU3-6	Project includes pedestrian and bicycle access through cul-de-sacs in new projects, except where prohibited by topography.			X	
LU3-7	Project includes neighborhood traffic calming to slow traffic speeds, reduce cut-through traffic and traffic-related noise, improve the aesthetics of the street, and increase safety for pedestrians, bicyclists, and vehicles.	X			

TR1: Improve and Increase Transit Ridership with Incentives, Partnerships, and Related Investments

TR1-6	The project offers discounted transit passes as part of HOA amenities, payable through the HOA dues. (Applies to residential development within 1/2 mile of transit.)	X			
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Project Aspects that reduce Greenhouse Gas (GHG) Emissions		Yes	No	N/A	Comments
TR1-9	The project includes a condition of approval to limit diesel vehicle idling. (Applies to projects with associated bus or truck traffic.)			X	

NM1: Enhance and Maintain a Safe, Convenient, and Effective System for Pedestrians and Bicyclists

NM1-1	Project provides a community trail, bike lane, staging area or other facility consistent with the Community Trails Master Plan or the Pedestrian and Bicycle Master Plan.	X			
NM1-4	Project provides bicycle-related improvements (i.e., work-place provision for showers, bicycle storage, bicycle lanes, etc.).	X			
NM1-5	Project provides bike parking. (Applies to non-residential and multi-family projects.)	X			
NM1-7	Project provides bicycle detection at signalized intersections.			X	
NM1-8	Project provides safe and convenient bike racks. (Applies to private schools, business and office projects.)			X	
NM1-9	Project completes a section of the Iron Horse Trail. (Applies to developments adjacent to the trail location.)			X	
NM1-10	Project contributes to the bicycle/pedestrian underpass at 580/680 interchange (Johnson Drive canal) for connection to Dublin. (Applies to new projects in the immediate vicinity.)			X	

TDM1: Use Parking Policy/Pricing to Discourage Single Occupancy Vehicle (SOV) Travel

TDM1-1	Project shares parking with adjacent use to reduce paved areas that contribute to urban heat islands and reduce stormwater infiltration.			X	
TDM1-2	Project separates fee-based parking from home rents/purchase prices or office leases. (Applies to projects within 1/2 mile of BART stations to increase housing and office affordability for those without a car or cars.)			X	
TDM1-3	Project tenants will participate in the City's TSM program to reduce auto trips. (Applies to non-residential projects.)			X	
TDM1-5	Project will participate in a parking demand management program.			X	
TDM1-6	Project provides one or more electric charging stations for plug-in vehicles.	X			2 Plus Pullstrings and Conduit.
TDM1-7	Project provides motorcycle or scooter parking. (Applies to projects located in Downtown.)			X	

TDM2: Promote Alternatives to Work and School Commutes

TDM2-4	Project provides a neighborhood telecommuting center.	X			
TDM2-7	Project provides transit passes or other transit use incentives for an interim period to establish transit use patterns for employees. (Applies to new non-residential projects of more than 20,000 s.f. within 1/4 mile of transit)	X			Yes, per condition
TDM2-10	Project provides dedicated parking spaces for carpool, vanpool, alternative-fuel, and car-share vehicles.			X	
TDM2-11	Project incorporates a car-sharing service.			X	

EC1: Use City Codes, Ordinances and Permitting to Enhance Green Building, Energy Efficiency and Energy Conservation

EC1-1	Project meets LEED Certified rating level and achieves 25% above T-24, and incorporates new requirements for shade trees, cool roofs and landscape lighting. (Applies to civic projects and commercial projects over 20,000 s.f.)			X	
EC1-2	Project meets the City's residential green rating standard, including 25% above T-24, and incorporates new requirements for shade trees, cool roofs and landscape lighting. (Applies to residential projects.)	X			Has cool roofs on apts.
EC1-3	Project provides light-colored paving material for roads and parking areas, as well as parking lot shade trees.	X			Shade Trees.

Project Aspects that reduce		Yes	No	N/A	Comments

Greenhouse Gas (GHG) Emissions		Yes	No	N/A	Discussion
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EC4: Develop Programs to Increase Energy Efficiency and Conservation

EC4-4	Project incorporates solar tubes, skylights, and other daylighting systems within the design.	X			
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ER1: Implement Local Ordinances and Permitting Processes to Support Renewable Energy

ER1-1	Project provides residential renewable energy installations (e.g., wind turbines). (Applies to residential projects)	X			Community Center.
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ER2: Develop Programs to Promote On-Site Renewable Energy in the Community

ER2-3	Project incorporates distributed generation, especially PV, solar thermal, solar hot water, and solar cooling, and/or providing bloom box or other fuel cell technologies.	X			Community Center.
ER2-5	Project includes a solar grid to power one or more EV charging stations.			X	

SW2: Increase Recycling, Organics Diversion, and Waste Reduction Associated with the Entire Community

SW2-12	Project provides adequate space and logistics for handling of recyclable and compostable materials. (Applies to commercial and multifamily residential projects.)	X			
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WA1: Conserve Community Water through Building and Landscape Design and Improvements

WA 1-7	Project incorporates a water-saving landscape plan that includes xeriscaping and drought-resistant planting in lieu of lawns.	X			
WA 1-8	Project limits lawn areas to designated play areas.	X			Yes, per condition

WA3: Increase or Establish use of Reclaimed/Grey Water Systems

WA3-2	Project utilizes reclaimed wastewater.	X			
WA3-4	Project incorporates rain harvesting.	X			



GreenPoint RATED
A PROGRAM OF BUILD IT GREEN

GreenPoint Rated Planning Scoresheet: Multifamily

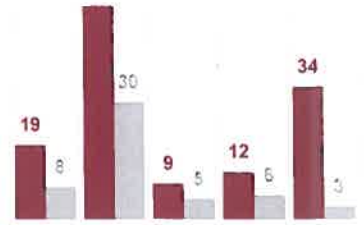
The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is provided as a public service by Build It Green, a professional non-profit whose mission is to promote healthy, energy and resource efficient buildings in California

The minimum requirements for a GreenPoint Rated home are: Earn a total of 50 points or more; obtain the following minimum points per category: Community (6), Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (3), and meet the prerequisites A2a, E2a, H4a. (for 2008 permitted projects), J1a, N1, and Q0.

Total Points Targeted: **136**

This checklist accommodates the verification of mandatory CALGreen measures but does not signify compliance unless accepted by jurisdictional authority. All CALGreen measures within the checklist must be selected as "Yes" or "n/a" for compliance with GreenPoint Rated. Build It Green is not a code enforcement agency.

The green building practices listed below are described in the GreenPoint Rated Multifamily Rating Manual. For more information please visit www.builditgreen.org/greenpointrated.



A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Multifamily New Home 2.2 / 2008 Title 24

Pleasanton Gateway - Apartments Pete Kennedy 3685 Planning Scoresheet

AA. COMMUNITY DESIGN AND PLANNING

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
			Points Available per Measure				
1. Develop Infill Sites							
No	a. Project is an Urban Infill Development		1				
30	b. Conserve Resources by Increasing Density -15 Units Per Acre or Greater (1 Point for every additional 5 dwelling units/acre) Enter Project Density Number (In du/acre)	4	10				
No	c. Project Includes the Redevelopment of At Least One Existing Building				1		
No	d. Build on Designated Brownfield Site or City-Designated Redevelopment Area		1				
2. Design for Walking & Bicycling							
Yes	a. Sidewalks Are Buffered from Roadways & Are 5 Feet Wide (8 Feet in Retail Areas)	1	1				
Yes	b. Install Traffic Calming Strategies	1	1				
Yes	c. Provide Dedicated, Covered & Secure Bicycle Storage for 15% of Residents	1	1				
No	d. Provide Secure Bicycle Storage for 5% of Non-Residential Tenant Employees & Visitors		1				
3. Alternative Transportation							
a. Site Has Pedestrian Access Within 1/2 Mile of Community Services:							
TIER 1: Enter number of services within 1/2 Mile:							
5	1) Day Care 2) Community Center 3) Public Park 4) Drug Store 5) Restaurant 6) School 7) Library 8) Farmer's Market 9) After School Programs 10) Convenience Store Where Meat & Produce are Sold						
TIER 2: Enter number of services within 1/2 Mile:							
7	1) Bank 2) Place of Worship 3) Laundry/Cleaners 4) Hardware 5) Theater/Entertainment 6) Fitness/Gym 7) Post Office 8) Senior Care Facility 9) Medical/Dental 10) Hair Care 11) Commercial Office or Major Employer 12) Full Scale Supermarket						
i. 5 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)							
ii. 10 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)							
b. Proximity to Public Transit: Development is Located Within							
Yes	i. 1/4 Mile of One Planned or Current Bus Line Stop	1	1				
Yes	ii. 1/2 Mile of a Major Transit Stop (Commuter Train/Light Rail Transit System OR Two or More Planned/Current Bus Line Stops	1	1				
c. Reduced Parking Capacity							
No	i. Less than 1.5 Parking Spaces Per Unit		1				
No	ii. Less than 1.0 Parking Spaces Per Unit		1				
4. Mixed-Use Developments							
No	a. At least 2% of Development Floor Space Supports Mixed-Use (Non-Residential Tenants)		1				
No	b. Half of the Non-Residential Floor Space is Dedicated to Community Services (S99-AA3a)		1				

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
5. Outdoor Gathering Places							
Yes	a. Private or Semi-Public Outdoor Gathering Places for Residents (Minimum of 50 sf Per Unit) (mutually exclusive with AA5b)	1	1				
No	b. Outdoor Gathering Place of Compact Site Provides Natural Elements (mutually exclusive with AA5a) (Projects Must Be a Minimum of 50 du/acre)		1				
No	c. Public Outdoor Gathering Places have Direct Access to At Least Two Tier 1 Community Services (See AA3a)		1				
6. Design for Safety and Vandalism Deterrence							
Yes	a. Residence Entries Have Views to Callers (Windows or Double Peep Holes) & Can Be Seen By Neighbors	1	1				
Yes	b. All Main Entrances to the Building and Site are Prominent and Visible from the Street	1	1				
7. Passive Solar Design							
No	a. Provide Appropriate Orientation for Maximum Energy Efficiency			2			
No	b. Provide Appropriate Shading On All South-Facing Windows for Effective Passive Solar Control			1			
No	c. Provide Thermal Mass			2			
8. Adaptable Buildings							
TBD	a. Include Universal Design Principles in Units		1				
TBD	i. 50% of Units		1				
No	ii. 80% of Units		1				
	b. Live/Work Units Include A Dedicated Commercial Entrance		1				
9. Affordability							
Yes	a. Units are Dedicated to Households Making 80% or Less of AMI	1	1				
No	i. 10% of All Units		1				
No	ii. 25%		1				
No	iii. 50% or More		1				
No	b. Development Includes Multiple Bedroom Units (Minimum of 2 3-Bdrm Units At or Less Than 80% AMI)		1				
No	c. At least 20% of Units at 120% or Less of AMI are For-Sale		1				
Total Available Points in Community Design and Planning		42	14				
A. SITE			Points Available per Measure				
1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees							
TBD	a. Protect Topsoil and Reuse After Construction		1			1	
TBD	b. Limit and Delineate Construction Footprint for Maximum Protection					1	
2. Divert/Recycle Job Site Construction Waste (Including Green Waste and Existing Structures)							
Yes	a. Required: Divert 50% (by weight) of All Construction & Demolition Waste (Recycling or Reuse) (CALGreen code)	Y					R
Yes	b. Divert 100% of Asphalt and Concrete and 65% (by weight) of Remaining Materials	2					
TBD	c. Divert 100% of Asphalt and Concrete and 80% (by weight) of Remaining Materials						
3. Construction Environmental Quality Management Plan, Duct Sealing, and Pre-Occupancy Flush-Out							
[*This credit is a requirement associated with PJ1 EPA IAP]							
Yes	a. Duct openings and other related air distribution component openings shall be covered during construction. (CALGreen code if applicable)	1				1	
TBD	b. Full environmental quality management plan and pre-occupancy flush out is conducted (Prerequisite is A5a)					1	
Yes	4. Use Recycled Content Aggregate (Minimum 25%)	1					1
Yes	5. Cool Site: Reduce Heat Island Effect on Site	1	1				
Total Available Points in Site		11	5				
B. LANDSCAPE			Points Available per Measure				
1. Landscaping							
45.9%	<i>Is the landscape ≥ 10% of the site area? Sites with less than 10% of the total site area dedicated to landscaping can only earn up to 4 points for measures B1a through B1g. Calculate the landscape area percentage by dividing the landscape area by the total site area. Include the building footprint(s) and all other developed portions of the site up to the site boundary.</i>						
Yes	a. Group Plants by Water Needs (Hydrozoning)	2					2
Yes	b. Mulch All Planting Beds to the Greater of 3 Inches or Local Water Ordinance Requirement	2					2
	c. Construct Resource-Efficient Landscapes						

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Yes	i. No Invasive Species Listed by Cal-IPC Are Planted	1				1	
Yes	ii. No Plant Species will Require Shearing	1				1	
Yes	iii. 75% of Plants are Drought-tolerant, California Natives, Mediterranean or Other Appropriate Species	3					2
d. Minimize Turf in Landscape Installed by Builder							
Yes	i. Turf Shall Not Be Installed on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less than 8 Feet Wide	2					2
Yes	ii. Turf Is ≤ 33% of Landscaped Area	2					2
e. Install High-Efficiency Irrigation Systems							
Yes	i. System Uses Only Low-Flow Drip, Bubblers or Sprinklers	2					2
Yes	ii. System Has Smart (Weather-based) Controller (CALGreen code if applicable)	3					3
Yes	f. Incorporate Two Inches of Compost in the Top 6 to 12 Inches of Soil	3					3
g. Design Landscape to Meet Water Budget							
TBD	i. Install Irrigation System That Will Be Operated at <70% Reference ET (B1a. and B1b. are Prerequisites for Credit)						1
TBD	ii. Install Irrigation System That Will Be Operated at <50% Reference ET (B1a., B1b. and B1ei. or B1eii. are Prerequisites for Credit)						1
TBD	h. Incorporate Community Garden		1				
2. Source Water Efficiency							
Yes	a. Use Recycled Water for Indoor and/or Outdoor Water Use	2					2
No	b. Use Rainwater for Indoor and/or Outdoor Water Use						4
3. Outdoor Play Structures and Outdoor Furniture							
Yes	a. Play Structures & Surfaces Have an Average Recycled Content ≥20%	1					
Yes	b. Environmentally Preferable Exterior Site Furnishings	1				1	
Yes	4. Reduce Light Pollution by Shielding Fixtures and Directing Light Downward	1					
Total Available Points in Landscape		33					
		26					

C. DESIGN CONSIDERATIONS

		Points Available per Measure
1. Acoustics: Noise and Vibration Control (minimum 2 points for credit, including 1 Tier 1 measure, maximum of 4 points)		
TIER 1: 1) Exterior Noise Reduction		1
TBD	2) Loud Single-Event Noise Reduction in Noise-Sensitive Spaces	1
TBD	3) Airborne and Structure-borne Noise Reduction (e.g., walls, floor-ceilings)	1
TBD	4) Mechanical Ventilation Noise and Vibration Control	1
TBD	5) Plumbing Noise and Vibration Reduction	1
TIER 2: 1) Minimize Stair Impact Noise		0.5
TBD	2) Minimize Floor Squeaks	0.5
TBD	3) Minimize Trash Chute Noise	0.5
TBD	4) Mixed-Use Noise and Vibration Reduction	0.5
2. Mixed-Use Design Strategies		
No	a. Develop Green Tenant Improvement Requirements for Build Outs	2
No	b. Commercial Loading Area Separated from Residential area	
No	c. Separate Mechanical and Plumbing Systems	1
3. Commissioning		
TBD	a. Design Phase (Define Owner's Project Requirements, Basis of Design, and Develop Plan)	1
TBD	b. Construction Phase (Perform Functional Testing)	2
TBD	c. Post-Construction Phase (Verify Compliance, Commissioning Report, Training and Warranty Review)	1
Total Available Points in Design Considerations		14

D. FOUNDATION, STRUCTURAL FRAME & BUILDING ENVELOPE

		Points Available per Measure
≥20%	1. Replace Portland Cement in Concrete with Recycled Fly Ash and/or Slag (Minimum 20%)	2
TBD	2. Design, Build and Maintain Structural Pest and Rot Controls (for low-rise projects)	1
3. Construction Material Efficiencies		
No	a. Wall and Floor Assemblies (excluding solid wall assemblies) are Delivered Panelized from Supplier (Minimum of 80% square feet)	1
No	b. Modular Components are Delivered Assembled to the Project (Minimum 25%)	5

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
c. Optimal Value Engineering							
No	i. Studs at 24 Inch on Center at Interior Non-Bearing Walls and Top Floor					1	
Yes	ii. Door & Window Headers Sized for Load	1				1	
TBD	iii. Use Only Cripple Studs Required for Load					1	
4. Use Engineered Lumber							
TBD	a. Engineered Beams and Headers					1	
TBD	b. Wood I-Joists or Web Trusses for Floors					1	
TBD	c. Engineered Lumber for Roof Rafters					1	
TBD	d. Engineered or Finger-Jointed Studs for Vertical Applications					1	
TBD	e. Oriented Strand Board for Subfloor					1	
TBD	f. Oriented Strand Board for Wall and Roof Sheathing					1	
No	5. Insulated Headers						
6. Use FSC-Certified Wood							
TBD	a. Dimensional Lumber, Studs and Timber (Minimum 40%)					4	
TBD	b. Panel Products (Minimum 40%)					2	
TBD	7. Energy Heels on Roof Trusses for Low-Rise Projects			1			
8. Use Solid Wall Systems (Includes SIPS, ICFs, & Any Non-Stick Frame Assembly)							
TBD	a. Floors					2	
TBD	b. Walls					2	
TBD	c. Roofs					1	
Total Available Points in Foundation, Structural Frame & Building Envelope		34					
E. EXTERIOR		3	Points Available per Measure				
1. Drainage Planes and Durable Siding							
No	a. Install a Rain Screen Wall System					2	
Yes	b. Use Durable and Non-Combustible Siding Materials	1				1	
2. Durable Roofing Options							
Yes	a. Required: All Roofing Has 3-Year Subcontractor Warranty and a 20-Year Manufacturer Warranty	Y					R
Yes	b. Use Durable and Fire Resistant Roofing Materials or Assembly	1				1	
No	3. Vegetated Roof (2 points for 25%, 4 points for 50%)		4				
Total Available Points in Exterior		8					
F. INSULATION		2	Points Available per Measure				
1. Install Insulation with 75% Recycled Content							
TBD	a. Walls					1	
TBD	b. Ceilings					1	
TBD	c. Floors					1	
Total Available Points in Insulation		3					
G. PLUMBING			Points Available per Measure				
1. Water Efficient Fixtures							
a. Install High Efficiency Toilets (Dual Flush or ≤ 1.28 Gallons Per Flush (gpf)) (CALGreen code if applicable)							
Yes	i. In All Residences	1.5				1.496	
TBD	ii. In All Non-Residential Areas					0.504	
b. High Efficiency Urinals or No-Water Urinals Are Specified:							
TBD	i. Average Flush Rate is ≤0.5 gpf (CALGreen code if applicable)					1	
TBD	ii. Average Flush Rate is ≤0.1 gpf					1	
Yes	c. High Efficiency Showerheads Use ≤ 2.0 Gallons Per Minute (gpm) at 80 psi (CALGreen code if applicable)	3				3	
d. Flow Limiters Or Flow Control Valves Are Installed on All Faucets							
Yes	i. Residences: Kitchen - ≤ 1.8 gpm (CA Green code if applicable)	0.75				0.736	
N/A	ii. Non-Residential Areas: Kitchen - ≤ 1.8 gpm (CALGreen code if applicable)					0.252	
Yes	iii. Residences: Bathroom Faucets- ≤ 1.5 gpm at 60psi	1				1	
TBD	iv. Non-Residential Areas: Bath Faucets - ≤ 5 gpm or 25 gal for meter faucets (CALGreen code if applicable)	N				0	
2. Distribute Domestic Hot Water Efficiently (G2a is a Prerequisite for credit for G2 b-e. Maximum 5 Points)							
TBD	a. Insulate All Hot Water Pipes [*This credit is a requirement associated with PJ1: EPA IAP]		1				1
TBD	b. Use Engineered Parallel Plumbing						1
TBD	c. Use Engineered Parallel Plumbing with Demand Controlled Circulation Loops (DCC)						1

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TBD	d. Use Traditional Trunk, Branch and Twig Plumbing with Demand Controlled Circulation Loop(s)			1			2
TBD	e. Use Central Core Plumbing			1		1	1
Yes	3. Water Submetering: Bill Tenants for Actual Usage	4					4
		Total Available Points in Plumbing: 18					
		10					
H. Heating Ventilation and Air Conditioning			Points Available per Measure				
No	1. Install High Performing Zoned Radiant Hydronic Heating				2		
TBD	2. Install High Efficiency Air Conditioning with Environmentally Preferable Refrigerants		1				
3. Advanced Ventilation Practices for Cooling							
No	a. Operable Windows or Skylights Are Placed To Induce Cross Ventilation In At Least One Room In 80% of Units			1	1		
b. Mechanical Ventilation System for Cooling:							
TBD	i. ENERGY STAR Ceiling Fans and Light Kits in Living Areas & All Bedrooms			1			
N/A	ii. Whole House Fan (CALGreen code if applicable)			1			
4. Advanced Mechanical Ventilation for IAQ							
Yes	a. Required: Compliance with ASHRAE 62.2 Mechanical Ventilation Standard (As Adopted in Title 24 Part 6) <i>N/A for projects permitted under 2005 Title 24</i>	Y			R		
Yes	b. Advanced Ventilation Practices (Continuous Operation, Sone Limit, Minimum Efficiency, Minimum Ventilation Rate, Homeowner Instructions)	1			1		
TBD	c. Outdoor Air Ducted to Bedroom and Living Areas of Home				2		
Yes	d. ENERGY STAR Bathroom Fans on Timer or Humidistat (CALGreen code if applicable)	1			1		
TBD	5. Garage Ventilation Fans Are Controlled by Carbon Monoxide Sensors (Passive Ventilation Not Eligible) [*This credit is a requirement associated with PJ1: EPA IAP]				1		
Yes	6. Install Carbon Monoxide Alarms (or No Combustion Appliances in Living Space and No Attached Garage) [*This credit is a requirement associated with PJ1: EPA IAP]	1			1		
		Total Available Points in Heating Ventilation and Air Conditioning: 13					
		3					
I. RENEWABLE ENERGY			Points Available per Measure				
No	1. Solar Hot Water System Preheats Domestic Hot Water			4			
2. Offset a Percentage of the Project's Estimated Electricity Demand with Onsite Renewable Generation							
No	a. 60% of Common Area Load		2	2			
No	b. 90% of Common Area Load		2	2			
No	c. 10% or More of Residential Units Load		2	2			
		Total Available Points in Renewable Energy: 16					
J. BUILDING PERFORMANCE			Points Available per Measure				
1. Building Performance Exceeds Title 24							
Enter the Percent Better Than Title 24 for Residential and Non-Residential Portions of the Project.							
25.0%	a. Required: Residences: Minimum 15% Better Than Title 24. 2 Points for Every 1% Better Than Title 24	50			30+		
	b. Non-Residential Spaces: 1 Point for Every 1% Better Than Title 24, adjusted for square footage				1		
2. Building Envelope Diagnostic Evaluations							
No	a. Duct Testing Results in Leakage < 6% [*This credit is a requirement associated with PJ1: EPA IAP]				1		
No	b. Blower Door Testing Results for Air Change per Hour is < 3.5 ACH ₅₀ [*This credit is a requirement associated with PJ1: EPA IAP]				2		
No	c. Verify Quality of Insulation Installation & Thermal Bypass Checklist before Drywall [*This credit is a requirement associated with PJ1: EPA IAP]				1		
No	3. Design and Build Near Zero Energy Homes (Enter number of points, minimum of 2 and maximum of 6 points)				3		
Yes	4. Title 24 Prepared and Signed by a CABEC Certified Energy Plans Examiner (CEPE)	1			1		
5. Participation in Utility Program with Third Party Plan Review							
Yes	a. Energy Efficiency Program [*This credit is a requirement associated with PJ1: EPA IAP]	1			1		
TBD	b. Renewable Energy Program with Min. 30% Better Than Title 24 (High Performing Home)				1		

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Points Targeted	Community	Energy	IAQ/Health	Resources	Water
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Total Available Points in Building Performance: 43+

52

K. FINISHES

Points Available per Measure

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
1. Entryways							
TBD	a. Design Entryways to Reduce Tracked-In Contaminants for All Home Entrances				1		
TBD	b. Permanent Walk-Off Systems Are Provided at All Main Building Entrances & In Common Areas				1		
TBD	2. Use Recycled Content Paint					1	
3. Low/No-VOC Paints & Coatings [*This credit is a requirement associated with PJ1: EPA IAP]							
a. Low-VOC Interior Wall/Ceiling Paints (<50 grams per liter (gpl) VOCs Regardless of Sheen) (CALGreen code if applicable)							
Yes	i. In All Residences	0.75			0.748		
N/A	ii. In All Non-Residential Areas				0.252		
b. Zero-VOC: Interior Wall/Ceiling Paints (<5 gpl Regardless of Sheen)							
TBD	i. In All Residences				0.748		
TBD	ii. In All Non-Residential Areas				0.252		
c. Use Low-VOC Coatings That Meet SCAQMD Rule 1113 (CALGreen code if applicable)							
Yes	i. In All Residences	1.5			1.496		
N/A	ii. In All Non-Residential Areas				0.504		
Yes	4. Use Low VOC Caulks, Construction Adhesives and Sealants that Meet SCAQMD Rule 1168 (CALGreen code if applicable)	1			1		
5. Environmentally Preferable Materials for Interior Finish: A) FSC-Certified Wood, B) Reclaimed Lumber, C) Rapidly Renewable, D) Recycled-Content, E) Finger-Jointed, or F) Local							
a. Residences: At Least 50% of Each Material:							
TBD	i. Cabinets					2.992	
TBD	ii. Interior Trim					1.496	
TBD	iii. Shelving					1.496	
TBD	iv. Doors					1.496	
TBD	v. Countertops					1.496	
b. Non-Residential Areas: At Least 50% of Each Material:							
TBD	i. Cabinets					1.008	
TBD	ii. Interior Trim					0.504	
TBD	iii. Shelving					0.504	
TBD	iv. Doors					0.504	
TBD	v. Countertops					0.504	
Yes	6. Reduce Formaldehyde in Interior Finish – Meet Current CARB Airborne Toxic Control Measure (ATCM) for Composite Wood Formaldehyde Limits by Mandatory Compliance Dates (CALGreen code if applicable) [*This credit is a requirement associated with PJ1: EPA IAP]	Y				0	
7. Reduce Formaldehyde in Interior Finish - Exceed Current CARB ATCM for Composite Wood Formaldehyde Limits Prior to Mandatory Compliance Dates							
a. Residences: At Least 90% of Each Material:							
TBD	i. Doors				0.748		
TBD	ii. Cabinets and Countertops				1.496		
TBD	iii. Interior Trim and Shelving				0.748		
b. Non-Residential Areas: At Least 90% of Each Material:							
TBD	i. Doors				0.252		
TBD	ii. Cabinets and Countertops				0.504		
TBD	iii. Interior Trim and Shelving				0.252		
8. Durable Cabinets							
TBD	a. Residences					0.252	
TBD	b. Non-Residential Areas					0.252	
TBD	9. At Least 25% of All Newly Supplied Interior Furniture has Environmentally Preferable Attributes					1	

Total Available Points in Finishes: 26

3

L. FLOORING

Points Available per Measure

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	1. Use Environmentally Preferable Flooring (Minimum 15% of Floor Area) A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete, or F) Local. <i>Flooring Adhesives Must Meet SCAQMD Rule 1168 for VOCs</i>						
TBD	a. Residences					2.992	
TBD	b. Non-Residential Areas					1.008	
	2. Low-Emitting Flooring [*This credit is a requirement associated with PJ1: EPA IAP]						
Yes	a. Residences: Low Emitting Flooring (50% Minimum) (Section 01350, CRI Green Label Plus, Floorscore)	1.5			1.495		
TBD	b. Non-Residential Areas: Low-Emitting Flooring (50% Minimum) (Section 01350, CRI Green Label Plus, Floorscore)				0.504		
Yes	3. All carpet and 50% of Resilient Flooring is low emitting. (CALGreen code if applicable)	Y			0		
Total Available Points in Flooring		6					

M. APPLIANCES & LIGHTING

			Points Available per Measure				
	1. ENERGY STAR Appliances						
Yes	a. Install ENERGY STAR Dishwasher (Must Meet Current Specifications)	2		1			1
	b. install ENERGY STAR Clothes Washer						
Yes	i. Meets ENERGY STAR and CEE Tier 2 Requirements (Modified Energy Factor ≥ 2.0; Water Factor ≤ 6.0) (Total 3 Points)	3		1			2
TBD	ii Meets ENERGY STAR and CEE Tier 3 Requirements (Modified Energy Factor ≥ 2.2; Water Factor ≤ 4.5) (Total 5 Points)						2
	c. Install ENERGY STAR Refrigerators in All Locations						
Yes	i. ENERGY STAR-Qualified & < 25 Cubic Feet Capacity	1		1			
TBD	ii. ENERGY STAR-Qualified & < 20 Cubic Feet Capacity			1			
No	2. Common Laundry Facilities Are Provided for All Occupants						1
TBD	3. Provide Built-in Recycling Center in Each Residential Unit						1
	4. Low-Mercury Lamps						
TBD	a. Low-Mercury Products Are Installed Wherever Linear Fluorescent Lamps Are Used or Replaced						1
TBD	b. Low-Mercury Products Are Installed Wherever Compact Fluorescent Lamps Are Used or Replaced						1
	5. Install High-Efficacy Lighting and Design Lighting System						
Yes	a. Install High-Efficacy Lighting	1		1			
TBD	b. Install a Lighting System to IESNA Footcandle Standards or Hire Lighting Consultant			1			
No	6. Gearless Elevators Are Installed						1
Total Available Points in Appliances & Lighting		16					

N. OTHER

			Points Available per Measure				
Yes	1. Required: Incorporate GreenPoint Rated Checklist in Blueprints [*This credit is a requirement associated with PJ1: EPA IAP]	Y	R				
Yes	2. Pre-Construction Kick-Off Meeting with Rater and Subs	1		1			
	3. Operations & Maintenance Manuals and Training [*This credit is a requirement associated with PJ1: EPA IAP]						
Yes	a. Provide O&M Manual to Building Maintenance Staff (CALGreen code if applicable)	1		1			
TBD	b. Provide O&M Manual to Occupants and Orientation			1			1
TBD	4. Residents Are Offered Free or Discounted Transit Passes			2			
TBD	5. Educational Signage of Project's Green Features			1			
TBD	6. Install Home/Building System Monitor(s)			1			
TBD	7. Use Vandalism Deterrence Practices and Develop Vandalism Management Plan			1			
Total Available Points in Other:		9					

O. (Not Used)

P. INNOVATIONS

			Points Available per Measure				
	A. Site						
	1. Stormwater Control: Prescriptive Path (Maximum of 3 Points, Mutually Exclusive With PA2)						
TBD	a. Use Permeable Paving for 25% of Driveways, Patios and Walkways			1			
Yes	b. Install Bio-Retention and Filtration Features	2		2			

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	c. Route Downspout Through Permeable Landscape		1				
TBD	d. Use Non-Leaching Roofing Materials		1				
TBD	e. Include Smart Street/Driveway Design		1				
2. Stormwater Control: Performance Path (Mutually Exclusive With PA1).							
TBD	Perform a Soil Percolation Test and Capture and Treat 85% of Total Annual Runoff		3				
D. Foundation, Structural Frame and Building Envelope							
TBD	1. Use Radon Resistant Construction [*This credit is a requirement associated with PJ1: EPA IAP]				2		
TBD	2. Install a Foundation Drainage System [*This credit is a requirement associated with PJ1: EPA IAP]					2	
TBD	3. Moisture Controlled Crawlspace [*For projects with crawlspaces, this credit is a requirement associated with PJ1: EPA IAP]				2		
E. Exterior							
TBD	1. Flashing Installation Techniques Specified and Third-Party Verified [*This credit is a requirement associated with PJ1: EPA IAP]					1	
H. Heating Ventilation and Air Conditioning							
Yes	1. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations (CALGreen code if applicable) [*This credit is a requirement associated with PJ1: EPA IAP]	4		4			
TBD	2. Pressure Relieve the Ductwork System (Mutually exclusive with H1) [*For projects with ducted systems, this credit is a requirement associated with PJ1: EPA IAP]			1			
Yes	3. Install High Efficiency HVAC Filter (MERV 6+, Mutually exclusive with H1.) [*This credit is a requirement associated with PJ1: EPA IAP]	1		1			
J. Building Performance							
TBD	1. Obtain EPA Indoor airPlus Certification (Total 39 possible points, not including Title 24 performance, read comment)			2			
TBD	2. Third-Party Testing of Mechanical Ventilation Rates for IAQ (Meet ASHRAE 62.2) [*This credit is a requirement associated with PJ1: EPA IAP]				2		
TBD	3. ENERGY STAR New Homes: High-Rise Pilot Program			1			
K. Finishes							
TBD	1. Use Moisture Resistant Material in Wet Areas: Kitchens, Bathrooms, Utility Rooms and Basements [*This credit is a requirement associated with PJ1: EPA IAP]				1	1	
TBD	2. Materials Meet SMaRT Criteria (Select number of points, up to 5 points)					5	
N. Other							
1. Innovation: List innovative measures that meet green building objectives. Enter in the number of points in each category in the blue cells for a maximum of 4 points for the measure. The "points achieved" column will be automatically fill in based on the sum of the points in each category. Points and measures will be evaluated by Build It Green.							
TBD	Innovation: Enter up to 4 Points in blue cells at right. Enter description here		0	0	0	0	0
TBD	Innovation: Enter up to 4 Points in blue cells at right. Enter description here		0	0	0	0	0
TBD	Innovation: Enter up to 4 Points in blue cells at right. Enter description here		0	0	0	0	0
TBD	Innovation: Enter up to 4 Points in blue cells at right. Enter description here		0	0	0	0	0
TBD	Innovation: Enter up to 4 Points in blue cells at right. Enter description here		0	0	0	0	0
Total Available Points in Other: 43+		7					
Q. California CALGreen CODE			Points Available per Measure				
No	0. Home meets all applicable CALGreen measures listed in above Sections A - P of the GreenPoint Rated checklist.	N	R				
The following measures are mandatory in the CALGreen code and do not earn points in the GreenPoint Rated Checklist but have been included in the Checklist for the convenience of jurisdictions.							
The GreenPoint Rater is not a code enforcement official. The measures in this section may be verified by the GreenPoint Rater at their own discretion and/or discretion of the building official.							
TBD	1. CALGreen 4.106.2 Storm water management during construction.	N					
TBD	2. CALGreen 4.106.3 Design for surface water drainage away from buildings.	N					

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	3. CALGreen 4.303.1 As an alternative to prescriptive compliance, a 20% reduction in baseline water use shall be demonstrated through calculation	N					
TBD	4. CALGreen 4.406.1 Joints and openings. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected	N					
TBD	5. CALGreen 4.503.1 Gas fireplace shall be a direct-vent sealed-combustion type. Woodstove or pellet stove shall comply with US EPA Phase II emission limits	N					
TBD	6. CALGreen 4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	N					
TBD	7. CALGreen 4.505.3 19% moisture content of building framing materials	N					
TBD	8. CALGreen 702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	N					
Total Available Points in California CALGreen CODE 0							

Summary								
		Total Available Points	275+	76	88+	35	83	52
		Minimum Points Required	50	6	30	5	6	3
		Total Points Targeted	136	19	62	9	12	34

Project Has Met All Minimum Requirements

GreenPoint Rated Checklist: Single Family



The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is provided as a public service by Build It Green, a professional non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (9); and meet the prerequisites A.2.a, H10a, J.2, N.1, and Q0.

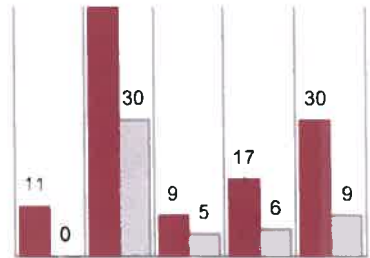
Total Points Targeted: **127**

This checklist accommodates the verification of mandatory CALGreen measures but does not signify compliance unless accepted by jurisdictional authority. All CALGreen measures within the checklist must be selected as "Yes" or "n/a" for compliance with GreenPoint Rated. Build It Green is not a code enforcement agency.

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit www.builditgreen.org/greenpointrated

A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Single Family New Home 4.2 / 2008 Title 24



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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
A. SITE			Possible Points				
1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees							
TBD	a. Protect Topsoil and Reuse after Construction	0					
TBD	b. Limit and Delineate Construction Footprint for Maximum Protection	0					
2. Divert/Recycle Job Site Construction Waste (Including Green Waste and Existing Structures)							
Yes	a. Required: Divert 50% (by weight) of All Construction and Demolition Waste (Recycling or Reuse) (CALGreen code)	Y				2	
Yes	b. Divert 100% of Asphalt and Concrete and 65% (by weight) of Remaining Materials	2				2	
TBD	c. Divert 100% of Asphalt and Concrete and 80% (by weight) of Remaining Materials	0				2	
3. Use Recycled Content Aggregate (Minimum 25%)							
Yes	a. Walkway and Driveway Base	1				1	
Yes	b. Roadway Base	1				1	
No	4. Cool Site: Reduce Heat Island Effect On Site	0					
5. Construction Environmental Quality Management Plan, Duct Sealing, and Pre-Occupancy Flush-Out [*This credit is a requirement associated with J4: EPA IAP]							
Yes	a. Duct openings and other related air distribution component openings shall be covered during construction (CALGreen code if applicable)	1			1		
TBD	b. Full environmental quality management plan and pre-occupancy flush out is conducted (Prerequisite is A5a)	0			1		
Total Points Available in Site = 12		5					
B. FOUNDATION			Points Available Per Measure				
≥20%	1. Replace Portland Cement in Concrete with Recycled Fly Ash and/or Slag (Minimum 20%)	1				2	
No	2. Use Frost-Protected Shallow Foundation in Cold Areas (CEC Climate Zone 16)	0				2	
TBD	3. Use Radon Resistant Construction [*This credit is a requirement associated with J4: EPA IAP]	0				2	
TBD	4. Install a Foundation Drainage System [*This credit is a requirement associated with J4: EPA IAP]	0				2	

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	5. Moisture Controlled Crawlspace [*This credit is a requirement associated with J4 EPA IAP]	0			2		
	6. Design and Build Structural Pest Controls						
TBD	a. Install Termite Shields & Separate All Exterior Wood-to-Concrete Connections	0				1	
TBD	b. All Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation	0				1	
Total Points Available in Foundation = 12		1					
C. LANDSCAPE			Points Available Per Measure				
40.6%	Percentage of landscape area. (Projects with less than 15% of the total site area (i.e. total lot size) as landscape area are capped at 6 points for the following measures: C1 through C7 and C9 through C11.						
Yes	1. Group Plants by Water Needs (Hydrozoning)	2					2
Yes	2. Mulch All Planting Beds to the Greater of 3 Inches or Local Water Ordinance Requirement	2					2
	3. Construct Resource-Efficient Landscapes						
Yes	a. No Invasive Species Listed by Cal-IPC Are Planted	1					1
Yes	b. No Plant Species Will Require Shearing	1			1		
Yes	c. 75% of Plants Are Drought Tolerant, California Natives or Mediterranean Species or Other Appropriate Species	3					3
	4. Minimize Turf in Landscape Installed by Builder						
Yes	a. Turf Shall Not Be Installed on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less than 8 Feet Wide	2					2
TBD	b. Turf is Small Percentage of Landscaped Area (2 Points for ≤25%, 4 Points for ≤10%)	0					4
TBD	5. Plant Shade Trees	0	1	1			1
	6. Install High-Efficiency Irrigation Systems						
Yes	a. System Uses Only Low-Flow Drip, Bubblers, or Sprinklers	2					2
Yes	b. System Has Smart (Weather-Based) Controller (CALGreen code if applicable)	3					3
Yes	7. Incorporate Two Inches of Compost in the Top 6 to 12 Inches of Soil	3					3
	8. Rain Water Harvesting System						
No	a. Cistern(s) is Less Than 750 Gallons	0					1
No	b. Cistern(s) is 750 to 2,500 Gallons	0					1
No	c. Cistern(s) is Greater Than 2,500 Gallons	0					1
Yes	9. Irrigation System Uses Recycled Wastewater	1					
No	10. Submetering for Landscape Irrigation	0					
	11. Design Landscape to Meet Water Budget						
TBD	a. Install Irrigation System That Will Be Operated at ≤70% Reference ET (Prerequisites for Credit are C1. and C2.)	0					1
TBD	b. Install Irrigation System That Will Be Operated at ≤50% Reference ET (Prerequisites for Credit are C1, C2, and C6a or C6b.)	0					1
Yes	12. Use Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content E) Finger-Jointed or F) Local	1				1	
Yes	13. Reduce Light Pollution by Shielding Fixtures and Directing Light Downward	1	1				
Total Points Available in Landscape = 35		22					
D. STRUCTURAL FRAME & BUILDING ENVELOPE			Points Available Per Measure				
	1. Apply Optimal Value Engineering						
TBD	a. Place Joists, Rafters and Studs at 24-Inch On Center	0					3
TBD	b. Door and Window Headers are Sized for Load	0					1
TBD	c. Use Only Cripple Studs Required for Load	0					1

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
2. Construction Material Efficiencies							
TBD	a. Wall and Floor Assemblies (Excluding Solid Wall Assemblies) are Delivered Panelized from Supplier (Minimum of 80% Square Feet)	0				2	
TBD	b. Modular Components Are Delivered Assembled to the Project (Minimum 25%)	0				2	
3. Use Engineered Lumber							
TBD	a. Engineered Beams and Headers	0				1	
Yes	b. Wood I-Joists or Web Trusses for Floors	1				1	
TBD	c. Engineered Lumber for Roof Rafters	0				1	
TBD	d. Engineered or Finger-Jointed Studs for Vertical Applications	0				1	
Yes	e. Oriented Strand Board for Subfloor	1				1	
Yes	f. Oriented Strand Board for Wall and Roof Sheathing	1				1	
TBD	4. Insulated Headers	0	1				
5. Use FSC-Certified Wood							
TBD	a. Dimensional Lumber, Studs and Timber (Minimum 40%)	0				2	
TBD	b. Panel Products (Minimum 40%)	0				2	
6. Use Solid Wall Systems (Includes SIPS, ICFs, & Any Non-Stick Frame Assembly)							
TBD	a. Floors	0				2	
TBD	b. Walls	0				2	
TBD	c. Roofs	0				1	
TBD	7. Energy Heels on Roof Trusses (75% of Attic Insulation Height at Outside Edge of Exterior Wall)	0	1				
8. Install Overhangs and Gutters							
TBD	a. Minimum 16-Inch Overhangs and Gutters	0				1	
TBD	b. Minimum 24-Inch Overhangs and Gutters	0	1				
9. Reduce Pollution Entering the Home from the Garage [*This credit is a requirement associated with J4: EPA IAP]							
TBD	a. Install Garage Exhaust Fan OR Build a Detached Garage	0			1		
TBD	b. Tightly Seal the Air Barrier between Garage and Living Area (Performance Test Required)	0			1		
Total Points Available in Structural Frame and Building Envelope = 39		3					
E. EXTERIOR			Points Available Per Measure				
Yes	1. Use Environmentally Preferable Decking	2				2	
TBD	2. Flashing Installation Techniques Specified and Third-Party Verified [*This credit is a requirement associated with J4: EPA IAP]	0				1	
TBD	3. Install a Rain Screen Wall System	0				2	
Yes	4. Use Durable and Non-Combustible Siding Materials	1				1	
Yes	5. Use Durable and Fire Resistant Roofing Materials or Assembly	2				2	
Total Points Available in Exterior = 8		5					
F. INSULATION			Points Available Per Measure				
1. Install Insulation with 75% Recycled Content							
TBD	a. Walls	0				1	
TBD	b. Ceilings	0				1	
TBD	c. Floors	0				1	
Total Points Available in Insulation = 3		0					
G. PLUMBING			Points Available Per Measure				
1. Distribute Domestic Hot Water Efficiently (Max. 5 points, G1a. is a Prerequisite for G1b-e)							
TBD	a. Insulate All Hot Water Pipes [*This credit is a requirement associated with J4: EPA IAP]	0	1				1
TBD	b. Use Engineered Parallel Plumbing	0					1
TBD	c. Use Engineered Parallel Plumbing with Demand Controlled Circulation Loop(s)	0					1

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	d. Use Traditional Trunk, Branch and Twig Plumbing with Demand Controlled Circulation Loop(s)	0		1			2
TBD	e. Use Central Core Plumbing	0		1		1	1
2. Water Efficient Fixtures							
Yes	a. High Efficiency Showerheads ≤2.0 Gallons Per Minute (gpm) at 80 psi. (Multiple showerheads shall not exceed maximum flow rates) (CALGreen code if applicable)	3					3
Yes	b. High Efficiency Bathroom Faucets ≤ 1.5 gpm at 60psi (CALGreen code)	1					1
Yes	c. High Efficiency Kitchen and Utility Faucets ≤1.8 gpm (CALGreen code if applicable)	1					1
Yes	3. Install Only High Efficiency Toilets (Dual-Flush or ≤1.28 Gallons Per Flush (gpf)) (CALGreen code if applicable)	2					2
Total Points Available in Plumbing = 12		7					

H. HEATING, VENTILATION & AIR CONDITIONING

Points Available Per Measure

1. Properly Design HVAC System and Perform Diagnostic Testing

Yes	a. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	4		4			
TBD	b. Test Total Supply Air Flow Rates [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	c. Third Party Testing of Mechanical Ventilation Rates for IAQ (meet ASHRAE 62.2)	0		1			

2. Install Sealed Combustion Units

[*This credit is a requirement associated with J4: EPA IAP]

TBD	a. Furnaces	0			2		
TBD	b. Water Heaters	0			2		

3. Install High Performing Zoned Hydronic Radiant Heating

TBD		0		1	1		
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4. Install High Efficiency Air Conditioning with Environmentally Preferable Refrigerants

TBD		0	1				
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5. Design and Install Effective Ductwork

TBD	a. Install HVAC Unit and Ductwork within Conditioned Space	0		1			
TBD	b. Use Duct Mastic on All Duct Joints and Seams [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	c. Pressure Relieve the Ductwork System [*This credit is a requirement associated with J4: EPA IAP]	0		1			

6. Install High Efficiency HVAC Filter (MERV 6+)

[*This credit is a requirement associated with J4: EPA IAP]

Yes		1					
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7. No Fireplace OR Install Sealed Gas Fireplace(s) with Efficiency Rating >60% using CSA Standards

[*This credit is a requirement associated with J4: EPA IAP]

TBD		0			1		
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8. Install ENERGY STAR Bathroom Fans on Timer or Humidistat (CALGreen code if applicable)

Yes		1			1		
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9. Install Mechanical Ventilation System for Cooling (Max. 4 Points)

TBD	a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & All Bedrooms	0		1			
N/A	b. Install Whole House Fan (Credit Not Available if H9c Chosen) (CALGreen code if applicable)	0		1			
TBD	c. Automatically Controlled Integrated System with Variable Speed Control	0		3			

10. Advanced Mechanical Ventilation for IAQ

Yes	a. Required: Compliance with ASHRAE 62.2 Mechanical Ventilation Standards (as adopted in Title 24 Part 6) [*This credit is a requirement associated with J4: EPA IAP]	Y			R		
TBD	b. Advanced Ventilation Practices (Continuous Operation, Sone Limit, Minimum Efficiency, Minimum Ventilation Rate, Homeowner Instructions)	0					
TBD	c. Outdoor Air Ducted to Bedroom and Living Areas of Home	0					

11. Install Carbon Monoxide Alarm(s) (or No Combustion Appliances in Living Space and No Attached Garage)

[*This credit is a requirement associated with J4: EPA IAP]

Yes		1			1		
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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Total Points Available in Heating, Ventilation and Air Conditioning = 27		7					
I. RENEWABLE ENERGY			Points Available Per Measure				
Yes	1. Pre-Plumb for Solar Water Heating	1				1	
Yes	2. Install Wiring Conduit for Future Photovoltaic Installation & Provide 200 ft ² of South-Facing Roof	1				1	
	3. Offset Energy Consumption with Onsite Renewable Generation (Solar PV, Solar Thermal, Wind) <i>Enter % total energy consumption offset, 1 point per 4% offset</i>	0		25			
Total Available Points in Renewable Energy = 27		2					
J. BUILDING PERFORMANCE			Points Available Per Measure				
1. Building Envelope Diagnostic Evaluations							
TBD	a. Verify Quality of Insulation Installation & Thermal Bypass Checklist before Drywall [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	b. House Passes Blower Door Test [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	c. Blower Door Results are Max 2.5 ACH ₅₀ for Unbalanced Systems (Supply or Exhaust) or Max 1.0 ACH ₅₀ for Balanced Systems (2 Total Points for J1b. and J1c.)	0		1			
TBD	d. House Passes Combustion Safety Backdraft Test	0			1		
25%	2. Required: Building Performance Exceeds Title 24 (Minimum 15%) <i>(Enter the Percent Better Than Title 24, Points for Every 1% Better Than Title 24)</i>	50		≥30			
TBD	3. Design and Build Near Zero Energy Homes <i>(Enter number of points, minimum of 2 and maximum of 6 points)</i>	0		3			
TBD	4. Obtain EPA Indoor airPlus Certification <i>(Total 42 points, not including Title 24 performance; read comment)</i>	0			2		
Yes	5. Title 24 Prepared and Signed by a CABEC Certified Energy Plans Examiner (CEPE)	1		1			
6. Participation in Utility Program with Third Party Plan Review							
Yes	a. Energy Efficiency Program [*This credit is a requirement associated with J4: EPA IAP]	1		1			
TBD	b. Renewable Energy Program with Min. 30% Better Than Title 24 (High Performing Home)	0		1			
Total Available Points in Building Performance = 45+		52					
K. FINISHES			Points Available Per Measure				
TBD	1. Design Entryways to Reduce Tracked-In Contaminants	0			1		
2. Use Low-VOC or Zero-VOC Paint (Maximum 3 Points)							
Yes	a. Low-VOC Interior Wall/Ceiling Paints (CALGreen code if applicable) (<50 Grams Per Liter (gpl) VOCs Regardless of Sheen) [*This credit is a requirement associated with J4: EPA IAP]	1			1		
TBD	b. Zero-VOC: Interior Wall/Ceiling Paints (<5 gpl VOCs Regardless of Sheen)	0			2		
Yes	3. Use Low-VOC Coatings that Meet SCAQMD Rule 1113 (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	2			3		
Yes	4. Use Low-VOC Caulks, Construction Adhesives and Sealants that Meet SCAQMD Rule 1168 (CALGreen code if applicable)	2			3		
TBD	5. Use Recycled-Content Paint	0				1	
6. Use Environmentally Preferable Materials for Interior Finish							
A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content or E) Finger-Jointed F) Local							
TBD	a. Cabinets (50% Minimum)	0				3	
TBD	b. Interior Trim (50% Minimum)	0				2	
TBD	c. Shelving (50% Minimum)	0				2	

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	d. Doors (50% Minimum)	0				2	
TBD	e. Countertops (50% Minimum)	0				2	
Yes	7. Reduce Formaldehyde in Interior Finish – Meet Current CARB Airborne Toxic Control Measure (ATCM) for Composite Wood Formaldehyde Limits by Mandatory Compliance Dates (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	Y			0		
	8. Reduce Formaldehyde in Interior Finish - Exceed Current CARB ATCM for Composite Wood Formaldehyde Limits Prior to Mandatory Compliance Dates						
TBD	a. Doors (90% Minimum)	0			1		
TBD	b. Cabinets & Countertops (90% Minimum)	0			2		
TBD	c. Interior Trim and Shelving (90% Minimum)	0			1		
TBD	9. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb	0			3		
Total Available Points in Finishes = 27		5					
L. FLOORING			Points Available Per Measure				
TBD	1. Use Environmentally Preferable Flooring (Minimum 15% Floor Area) A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete, F) Local. <i>Flooring Adhesives Must Meet SCAQMD Rule 1168 for VOCs.</i>	0					
No	2. Thermal Mass Floors (Minimum 50%)	0					
TBD	3. Low Emitting Flooring (Section 01350, CRI Green Label Plus, Floorscore [*This credit is a requirement associated with J4: EPA IAP])	0					
Yes	4. All carpet and 50% of Resilient Flooring is low emitting. (CALGreen code if applicable)	Y					
Total Available Points in Flooring = 8		0					
M. APPLIANCES AND LIGHTING			Points Available Per Measure				
Yes	1. Install ENERGY STAR Dishwasher (Must Meet Current Specifications)	2		1			1
	2. Install ENERGY STAR Clothes Washer						
Yes	a. Meets ENERGY STAR and CEE Tier 2 Requirements (Modified Energy Factor 2.0, Water Factor 6.0 or less)	3		1			2
TBD	b. Meets ENERGY STAR and CEE Tier 3 Requirements (Modified Energy Factor 2.2, Water Factor 4.5 or less)	0					2
	3. Install ENERGY STAR Refrigerator						
Yes	a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity	1		1			
TBD	b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity	0		1			
	4. Install Built-In Recycling Center or Composting Center						
TBD	a. Built-In Recycling Center	0				1	
TBD	b. Built-In Composting Center	0				1	
	5. Install High-Efficacy Lighting and Design Lighting System						
TBD	a. Install High-Efficacy Lighting	0		1			
TBD	b. Install a Lighting System to IESNA Footcandle Standards or Hire Lighting Consultant	0		1			
Total Available Points in Appliances and Lighting = 13		6					
N. OTHER			Points Available Per Measure				
Yes	1. Required: Incorporate GreenPoint Rated Checklist in Blueprints [*This credit is a requirement associated with J4: EPA IAP]	Y					R
Yes	2. Pre-Construction Kick-Off Meeting with Rater and Subs	1	1				
TBD	3. Homebuilder's Management Staff are Certified Green Building Professionals	0	1				
	4. Develop Homeowner Education						

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Yes	a. Develop Homeowner Manual of Green Features/Benefits (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	2		1			1
TBD	b. Conduct Educational Walkthroughs (Prerequisite is N4a) [*This credit is a requirement associated with J4: EPA IAP]	0			1		
TBD	5. Install a Home System Monitor OR Participate in a Time-of-Use Pricing Program	0		1			
Total Available Points in Other = 6		3					

O. COMMUNITY DESIGN & PLANNING

1. Develop Infill Sites

TBD	a. Project is an Urban Infill Development	0	1				1
No	b. Home(s)/Development is Located within 1/2 Mile of a Major Transit Stop	0	2				
No	2. Build on Designated Brownfield Site	0	3				

3. Cluster Homes & Keep Size in Check

TBD	a. Cluster Homes for Land Preservation	0	1				1
No	b. Conserve Resources by Increasing Density (10 Units per Acre or Greater)	0	2				2
0	c. Home Size Efficiency	0					9

4. Design for Walking & Bicycling

5	a. Site Has Pedestrian Access Within 1/2 Mile of Community Services: TIER 1: Enter Number of Services Within 1/2 Mile 1) Day Care 2) Community Center 3) Public Park 4) Drug Store 5) Restaurant 6) School 7) Library 8) Farmer's Market 9) After School Programs 10) Convenience Store Where Meat & Produce are Sold						
7	TIER 2: Enter Number of Services Within 1/2 Mile 1) Bank 2) Place of Worship 3) Laundry/Cleaners 4) Hardware 5) Theater/Entertainment 6) Fitness/Gym 7) Post Office 8) Senior Care Facility 9) Medical/Dental 10) Hair Care 11) Commercial Office or Major Employer 12) Full Scale Supermarket						
	i. 5 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	1	1				
	ii. 10 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	0	1				
No	b. Development is Connected with A Dedicated Pedestrian Pathway to Places of Recreational Interest Within 1/4 mile	0	1				
Yes	c. Install Traffic Calming Strategies (Minimum of Two): - Designated Bicycle Lanes are Present on Roadways, - Ten-Foot Vehicle Travel Lanes; - Street Crossings Closest to Site are Located Less Than 300 Feet Apart; - Streets Have Rumble Strips, Bulbouts, Raised Crosswalks or Refuge Islands	2	2				

5. Design for Safety & Social Gathering

Yes	a. All Home Front Entrances Have Views from the Inside to Outside Callers	1	1				
Yes	b. All Home Front Entrances Can be Seen from the Street and/or from Other Front Doors	1	1				
Yes	c. Orient Porches (min. 100sf) to Streets and Public Spaces	1	1				
Yes	d. Development Includes a Social Gathering Space	1	1				

6. Design for Diverse Households (6a. is a Prerequisite for 6b. and 6c.)

TBD	a. All Homes Have At Least One Zero-Step Entrance	0	1				
TBD	b. All Main Floor Interior Doors & Passageways Have a Minimum 32-Inch Clear Passage Space	0	1				
Yes	c. Locate Half-Bath on the Ground Floor	0	1				
No	d. Provide Full-Function Independent Rental Unit	0	1				

Total Achievable Points in Community Design & Planning = 35

P. INNOVATION

A. Site

- Stormwater Control: Prescriptive Path (Maximum of 3 Points, Mutually Exclusive with PA2.)

Possible Points

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	a. Use Permeable Paving for 25% of Driveways, Patios and Walkways	0	1				
Yes	b. Install Bio-Retention and Filtration Features	2	2				
TBD	c. Route Downspout Through Permeable Landscape	0	1				
TBD	d. Use Non-Leaching Roofing Materials	0	1				
TBD	e. Include Smart Street/Driveway Design	0	1				
TBD	2. Stormwater Control: Performance Path (Mutually Exclusive with PA1): Perform Soil Percolation Test and Capture and Treat 85% of Total Annual Runoff	0	3				
C. Landscape							
TBD	1. Meet Local Landscape Program Requirement	0					2
D. Structural Frame & Building Envelope							
1. Design, Build and Maintain Structural Pest and Rot Controls							
TBD	a. Locate All Wood (Siding, Trim, Structure) At Least 12" Above Soil	0				1	
TBD	b. All Wood Framing 3 Feet from the Foundation is Treated with Borates (or Use Factory-Impregnated Materials) OR Walls are Not Made of Wood	0				1	
TBD	2. Use Moisture Resistant Materials in Wet Areas: Kitchen, Bathrooms, Utility Rooms, and Basements [*This credit is a requirement associated with J4: EPA IAP]	0			1	1	
E. Exterior							
TBD	1. Vegetated Roof (Minimum 25%)	0	2	2			
G. Plumbing							
TBD	1. Greywater Pre-Plumbing (Includes Washing Machine at Minimum)	0					1
TBD	2. Greywater System Operational (Includes Washing Machine at Minimum)	0					2
TBD	3. Innovative Wastewater Technology (Constructed Wetland, Sand Filter, Aerobic System)	0					1
TBD	4. Composting or Waterless Toilet	0					2
TBD	5. Install Drain Water Heat-Recovery System	0		1			
TBD	6. Install a Hot Water Desuperheater	0		2			
H. Heating, Ventilation, and Air Conditioning							
TBD	1. Humidity Control Systems (Only in California Humid/Marine Climate Zones 1,3,5,6,7) [*This credit is a requirement associated with J4: EPA IAP]	0			1		
TBD	2. Design HVAC System to Manual T for Register Design	0		1			
K. Finishes							
TBD	1. Materials Meet SMaRT Criteria (Select the number of points, up to 5 points)	0				5	
N. Other							
TBD	1. Detailed Durability Plan and Third-Party Verification of Plan Implementation	0				2	
2. Educational Signage of Project's Green Features							
TBD	a. Promotion of Green Building Practices	0	1				
TBD	b. Installed Green Building Educational Signage	0	1				
3. Innovation: List innovative measures that meet green building objectives. Enter in the number of points in each category for a maximum of 4 points for the measure in the blue cells. Points achieved column will be automatically fill in based on the sum of the points in each category. Points and measures will be evaluated by Build It Green.							
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
Total Achievable Points in Innovation = 33+		2					
Q. CALIFORNIA CALGreen CODE			Possible Points				
Yes	0. Home meets all applicable CALGreen measures listed in above Sections A - P of the GreenPoint Rated checklist.	Y	R				

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
<p><i>The following measures are mandatory in the CALGreen code and do not earn points in the GreenPoint Rated Checklist, but have been included in the Checklist for the convenience of jurisdictions.</i></p> <p><i>The GreenPoint Rater is not a code enforcement official. The measures in this section may be verified by the GreenPoint Rater at their own discretion and/or discretion of the building official.</i></p>							
TBD	1. CALGreen 4.106.2 Storm water management during construction.	N					
TBD	2. CALGreen 4.106.3 Design for surface water drainage away from buildings.	N					
TBD	3. CALGreen 4.303.1 As an alternative to prescriptive compliance, a 20% reduction in baseline water use shall be demonstrated through calculation	N					
TBD	4. CALGreen 4.406.1 Joints and openings. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected	N					
TBD	5. CALGreen 4.503.1 Gas fireplace shall be a direct-vent sealed-combustion type. Woodstove or pellet stove shall comply with US EPA Phase II emission limits	N					
TBD	6. CALGreen 4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	N					
TBD	7. CALGreen 4.505.3 19% moisture content of building framing materials	N					
TBD	8. CALGreen 702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	N					
Total Achievable Points in California Green Code = 0		0					
Summary							
Total Available Points			44	96+	44	109	59
Minimum Points Required			0	30	5	6	9
Total Points Targeted		127	11	60	9	17	30

Project has met all minimum requirements

GreenPoint Rated Checklist: Single Family



GreenPoint RATED
A PROGRAM OF BUILD IT GREEN

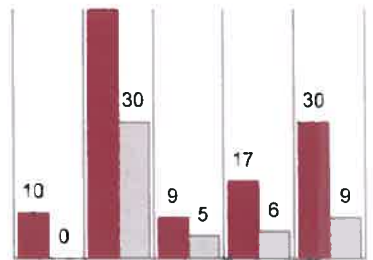
The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is provided as a public service by Build It Green, a professional non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (9); and meet the prerequisites A 2.a, H10a., J.2., N.1, and Q0.

Total Points Targeted: **126**

This checklist accommodates the verification of mandatory CALGreen measures but does not signify compliance unless accepted by jurisdictional authority. All CALGreen measures within the checklist must be selected as "Yes" or "n/a" for compliance with GreenPoint Rated. Build It Green is not a code enforcement agency.

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit www.builditgreen.org/greenpointrated



A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Single Family New Home 4.2 / 2008 Title 24

Pleasanton Gateway - Row House		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Pete Kennedy 3685							
Planning Scoresheet							
A. SITE			Possible Points				
1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees							
TBD	a. Protect Topsoil and Reuse after Construction	0					
TBD	b. Limit and Delineate Construction Footprint for Maximum Protection	0					
2. Divert/Recycle Job Site Construction Waste (Including Green Waste and Existing Structures)							
Yes	a. Required: Divert 50% (by weight) of All Construction and Demolition Waste (Recycling or Reuse) (CALGreen code)	Y					
Yes	b. Divert 100% of Asphalt and Concrete and 65% (by weight) of Remaining Materials	2					
TBD	c. Divert 100% of Asphalt and Concrete and 80% (by weight) of Remaining Materials	0				2	
3. Use Recycled Content Aggregate (Minimum 25%)							
Yes	a. Walkway and Driveway Base	1					
Yes	b. Roadway Base	1					
No	4. Cool Site: Reduce Heat Island Effect On Site	0					
5. Construction Environmental Quality Management Plan, Duct Sealing, and Pre-Occupancy Flush-Out [*This credit is a requirement associated with J4: EPA IAP]							
Yes	a. Duct openings and other related air distribution component openings shall be covered during construction (CALGreen code if applicable)	1					
TBD	b. Full environmental quality management plan and pre-occupancy flush out is conducted (Prerequisite is A5a)	0					
Total Points Available in Site = 12		5					
B. FOUNDATION			Points Available Per Measure				
≥20%	1. Replace Portland Cement in Concrete with Recycled Fly Ash and/or Slag (Minimum 20%)	1					2
No	2. Use Frost-Protected Shallow Foundation in Cold Areas (CEC Climate Zone 16)	0					2
TBD	3. Use Radon Resistant Construction [*This credit is a requirement associated with J4: EPA IAP]	0					2
TBD	4. Install a Foundation Drainage System [*This credit is a requirement associated with J4: EPA IAP]	0					2

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Planning Scoresheet

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	5. Moisture Controlled Crawlspace [*This credit is a requirement associated with J4 EPA IAP]	0					
	6. Design and Build Structural Pest Controls						
TBD	a. Install Termite Shields & Separate All Exterior Wood-to-Concrete Connections	0				1	
TBD	b. All Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation	0				1	
Total Points Available in Foundation = 12		1					
C. LANDSCAPE			Points Available Per Measure				
49.1%	Percentage of landscape area. (Projects with less than 15% of the total site area (i.e. total lot size) as landscape area are capped at 6 points for the following measures: C1 through C7 and C9 through C11.						
Yes	1. Group Plants by Water Needs (Hydrozoning)	2					2
Yes	2. Mulch All Planting Beds to the Greater of 3 Inches or Local Water Ordinance Requirement	2					2
	3. Construct Resource-Efficient Landscapes						
Yes	a. No Invasive Species Listed by Cal-IPC Are Planted	1					1
Yes	b. No Plant Species Will Require Shearing	1			1		
Yes	c. 75% of Plants Are Drought Tolerant, California Natives or Mediterranean Species or Other Appropriate Species	3					3
	4. Minimize Turf in Landscape Installed by Builder						
Yes	a. Turf Shall Not Be Installed on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less than 8 Feet Wide	2					2
TBD	b. Turf is Small Percentage of Landscaped Area (2 Points for ≤25%, 4 Points for ≤10%)	0					4
TBD	5. Plant Shade Trees	0	1	1			1
	6. Install High-Efficiency Irrigation Systems						
Yes	a. System Uses Only Low-Flow Drip, Bubblers, or Sprinklers	2					2
Yes	b. System Has Smart (Weather-Based) Controller (CALGreen code if applicable)	3					3
Yes	7. Incorporate Two Inches of Compost in the Top 6 to 12 Inches of Soil	3					3
	8. Rain Water Harvesting System						
No	a. Cistern(s) is Less Than 750 Gallons	0					1
No	b. Cistern(s) is 750 to 2,500 Gallons	0					1
No	c. Cistern(s) is Greater Than 2,500 Gallons	0					1
Yes	9. Irrigation System Uses Recycled Wastewater	1					1
No	10. Submetering for Landscape Irrigation	0					1
	11. Design Landscape to Meet Water Budget						
TBD	a. Install Irrigation System That Will Be Operated at ≤70% Reference ET (Prerequisites for Credit are C1 and C2)	0					1
TBD	b. Install Irrigation System That Will Be Operated at ≤50% Reference ET (Prerequisites for Credit are C1, C2, and C6a or C6b)	0					1
Yes	12. Use Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content E) Finger-Jointed or F) Local	1					1
Yes	13. Reduce Light Pollution by Shielding Fixtures and Directing Light Downward	1					1
Total Points Available in Landscape = 35		22					
D. STRUCTURAL FRAME & BUILDING ENVELOPE			Points Available Per Measure				
	1. Apply Optimal Value Engineering						
TBD	a. Place Joists, Rafters and Studs at 24-Inch On Center	0					3
TBD	b. Door and Window Headers are Sized for Load	0					1
TBD	c. Use Only Cripple Studs Required for Load	0					1
	2. Construction Material Efficiencies						

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Planning Scoresheet

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	a. Wall and Floor Assemblies (Excluding Solid Wall Assemblies) are Delivered Panelized from Supplier (Minimum of 80% Square Feet)	0					
TBD	b. Modular Components Are Delivered Assembled to the Project (Minimum 25%)	0					
3. Use Engineered Lumber							
TBD	a. Engineered Beams and Headers	0				1	
Yes	b. Wood I-Joists or Web Trusses for Floors	1				1	
TBD	c. Engineered Lumber for Roof Rafters	0				1	
TBD	d. Engineered or Finger-Jointed Studs for Vertical Applications	0				1	
Yes	e. Oriented Strand Board for Subfloor	1				1	
Yes	f. Oriented Strand Board for Wall and Roof Sheathing	1				1	
TBD	4. Insulated Headers	0		1			
5. Use FSC-Certified Wood							
TBD	a. Dimensional Lumber, Studs and Timber (Minimum 40%)	0				0	
TBD	b. Panel Products (Minimum 40%)	0				0	
6. Use Solid Wall Systems (Includes SIPS, ICFs, & Any Non-Stick Frame Assembly)							
TBD	a. Floors	0				2	
TBD	b. Walls	0				2	
TBD	c. Roofs	0				1	
TBD	7. Energy Heels on Roof Trusses (75% of Attic Insulation Height at Outside Edge of Exterior Wall)	0					
8. Install Overhangs and Gutters							
TBD	a. Minimum 16-Inch Overhangs and Gutters	0				1	
TBD	b. Minimum 24-Inch Overhangs and Gutters	0		1			
9. Reduce Pollution Entering the Home from the Garage [*This credit is a requirement associated with J4: EPA IAP]							
TBD	a. Install Garage Exhaust Fan OR Build a Detached Garage	0					
TBD	b. Tightly Seal the Air Barrier between Garage and Living Area (Performance Test Required)	0					
Total Points Available in Structural Frame and Building Envelope = 39		3					
E. EXTERIOR			Points Available Per Measure				
Yes	1. Use Environmentally Preferable Decking	2				2	
TBD	2. Flashing Installation Techniques Specified and Third-Party Verified [*This credit is a requirement associated with J4: EPA IAP]	0				1	
TBD	3. Install a Rain Screen Wall System	0				2	
Yes	4. Use Durable and Non-Combustible Siding Materials	1				1	
Yes	5. Use Durable and Fire Resistant Roofing Materials or Assembly	2				2	
Total Points Available in Exterior = 8		5					
F. INSULATION			Points Available Per Measure				
1. Install Insulation with 75% Recycled Content							
TBD	a. Walls	0				1	
TBD	b. Ceilings	0				1	
TBD	c. Floors	0				1	
Total Points Available in Insulation = 3		0					
G. PLUMBING			Points Available Per Measure				
1. Distribute Domestic Hot Water Efficiently (Max. 5 points, G1a. is a Prerequisite for G1b-e)							
TBD	a. Insulate All Hot Water Pipes [*This credit is a requirement associated with J4: EPA IAP]	0				1	
TBD	b. Use Engineered Parallel Plumbing	0				1	
TBD	c. Use Engineered Parallel Plumbing with Demand Controlled Circulation Loop(s)	0				1	
TBD	d. Use Traditional Trunk, Branch and Twig Plumbing with Demand Controlled Circulation Loop(s)	0				2	

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	e. Use Central Core Plumbing	0		1		1	1
2. Water Efficient Fixtures							
Yes	a. High Efficiency Showerheads ≤2.0 Gallons Per Minute (gpm) at 80 psi. (Multiple showerheads shall not exceed maximum flow rates) (CALGreen code if applicable)	3					3
Yes	b. High Efficiency Bathroom Faucets ≤ 1.5 gpm at 60psi (CALGreen code)	1					1
Yes	c. High Efficiency Kitchen and Utility Faucets ≤1.8 gpm (CALGreen code if applicable)	1					1
Yes	3. Install Only High Efficiency Toilets (Dual-Flush or ≤1.28 Gallons Per Flush (gpf)) (CALGreen code if applicable)	2					2
Total Points Available in Plumbing = 12		7					
H. HEATING, VENTILATION & AIR CONDITIONING			Points Available Per Measure				
1. Properly Design HVAC System and Perform Diagnostic Testing							
Yes	a. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	4		4			
TBD	b. Test Total Supply Air Flow Rates [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	c. Third Party Testing of Mechanical Ventilation Rates for IAQ (meet ASHRAE 62.2)	0		1			
2. Install Sealed Combustion Units [*This credit is a requirement associated with J4: EPA IAP]							
TBD	a. Furnaces	0			2		
TBD	b. Water Heaters	0			2		
TBD	3. Install High Performing Zoned Hydronic Radiant Heating	0		1	1		
TBD	4. Install High Efficiency Air Conditioning with Environmentally Preferable Refrigerants	0	1				
5. Design and Install Effective Ductwork							
TBD	a. Install HVAC Unit and Ductwork within Conditioned Space	0		1			
TBD	b. Use Duct Mastic on All Duct Joints and Seams [*This credit is a requirement associated with J4: EPA IAP]	0		1			
TBD	c. Pressure Relieve the Ductwork System [*This credit is a requirement associated with J4: EPA IAP]	0		1			
Yes	6. Install High Efficiency HVAC Filter (MERV 6+) [*This credit is a requirement associated with J4: EPA IAP]	1			1		
TBD	7. No Fireplace OR Install Sealed Gas Fireplace(s) with Efficiency Rating >60% using CSA Standards [*This credit is a requirement associated with J4: EPA IAP]	0			1		
Yes	8. Install ENERGY STAR Bathroom Fans on Timer or Humidistat (CALGreen code if applicable)	1			1		
9. Install Mechanical Ventilation System for Cooling (Max. 4 Points)							
TBD	a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & All Bedrooms	0		1			
N/A	b. Install Whole House Fan (Credit Not Available if H9c Chosen) (CALGreen code if applicable)	0		1			
TBD	c. Automatically Controlled Integrated System with Variable Speed Control	0		1			
10. Advanced Mechanical Ventilation for IAQ							
Yes	a. Required: Compliance with ASHRAE 62.2 Mechanical Ventilation Standards (as adopted in Title 24 Part 6) [*This credit is a requirement associated with J4: EPA IAP]	Y			R		
TBD	b. Advanced Ventilation Practices (Continuous Operation, Some Limit, Minimum Efficiency, Minimum Ventilation Rate, Homeowner Instructions)	0			1		
TBD	c. Outdoor Air Ducted to Bedroom and Living Areas of Home	0			2		
Yes	11. Install Carbon Monoxide Alarm(s) (or No Combustion Appliances in Living Space and No Attached Garage) [*This credit is a requirement associated with J4: EPA IAP]	1			1		
Total Points Available in Heating, Ventilation and Air Conditioning = 27		7					
I. RENEWABLE ENERGY			Points Available Per Measure				

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Yes	1. Pre-Plumb for Solar Water Heating	1				1	
Yes	2. Install Wiring Conduit for Future Photovoltaic Installation & Provide 200 ft ² of South-Facing Roof	1				1	
	3. Offset Energy Consumption with Onsite Renewable Generation (Solar PV, Solar Thermal, Wind) <i>Enter % total energy consumption offset, 1 point per 4% offset</i>	0		25			
Total Available Points in Renewable Energy = 27		2					

J. BUILDING PERFORMANCE

Points Available Per Measure

1. Building Envelope Diagnostic Evaluations

TBD	a. Verify Quality of Insulation Installation & Thermal Bypass Checklist before Drywall [*This credit is a requirement associated with J4: EPA IAP]	0					
TBD	b. House Passes Blower Door Test [*This credit is a requirement associated with J4: EPA IAP]	0					
TBD	c. Blower Door Results are Max 2.5 ACH ₅₀ for Unbalanced Systems (Supply or Exhaust) or Max 1.0 ACH ₅₀ for Balanced Systems (2 Total Points for J1b. and J1c.)	0					
TBD	d. House Passes Combustion Safety Backdraft Test	0			1		
25%	2. Required: Building Performance Exceeds Title 24 (Minimum 15%) <i>(Enter the Percent Better Than Title 24, Points for Every 1% Better Than Title 24)</i>	50		≥30			
TBD	3. Design and Build Near Zero Energy Homes <i>(Enter number of points, minimum of 2 and maximum of 6 points)</i>	0		5			
TBD	4. Obtain EPA Indoor airPlus Certification <i>(Total 42 points, not including Title 24 performance; read comment)</i>	0			2		
Yes	5. Title 24 Prepared and Signed by a CABEC Certified Energy Plans Examiner (CEPE)	1					
6. Participation in Utility Program with Third Party Plan Review							
Yes	a. Energy Efficiency Program [*This credit is a requirement associated with J4: EPA IAP]	1					
TBD	b. Renewable Energy Program with Min. 30% Better Than Title 24 (High Performing Home)	0					
Total Available Points in Building Performance = 45+		52					

K. FINISHES

Points Available Per Measure

TBD	1. Design Entryways to Reduce Tracked-In Contaminants	0					
2. Use Low-VOC or Zero-VOC Paint (Maximum 3 Points)							
Yes	a. Low-VOC Interior Wall/Ceiling Paints (CALGreen code if applicable) (<50 Grams Per Liter (gpl) VOCs Regardless of Sheen) [*This credit is a requirement associated with J4: EPA IAP]	1					
TBD	b. Zero-VOC: Interior Wall/Ceiling Paints (<5 gpl VOCs Regardless of Sheen)	0			2		
Yes	3. Use Low-VOC Coatings that Meet SCAQMD Rule 1113 (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	2			2		
Yes	4. Use Low-VOC Caulks, Construction Adhesives and Sealants that Meet SCAQMD Rule 1168 (CALGreen code if applicable)	2			2		
TBD	5. Use Recycled-Content Paint	0					
6. Use Environmentally Preferable Materials for Interior Finish A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content or E) Finger-Jointed F) Local							
TBD	a. Cabinets (50% Minimum)	0					
TBD	b. Interior Trim (50% Minimum)	0					
TBD	c. Shelving (50% Minimum)	0					
TBD	d. Doors (50% Minimum)	0					
TBD	e. Countertops (50% Minimum)	0					

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		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
Yes	7. Reduce Formaldehyde in Interior Finish – Meet Current CARB Airborne Toxic Control Measure (ATCM) for Composite Wood Formaldehyde Limits by Mandatory Compliance Dates (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	Y			0		
	8. Reduce Formaldehyde in Interior Finish - Exceed Current CARB ATCM for Composite Wood Formaldehyde Limits Prior to Mandatory Compliance Dates						
TBD	a. Doors (90% Minimum)	0			1		
TBD	b. Cabinets & Countertops (90% Minimum)	0			2		
TBD	c. Interior Trim and Shelving (90% Minimum)	0			1		
TBD	9. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb	0			3		
Total Available Points in Finishes = 27		5					
L. FLOORING			Points Available Per Measure				
TBD	1. Use Environmentally Preferable Flooring (Minimum 15% Floor Area) A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete, F) Local. <i>Flooring Adhesives Must Meet SCAQMD Rule 1168 for VOCs.</i>	0					
No	2. Thermal Mass Floors (Minimum 50%)	0					
TBD	3. Low Emitting Flooring (Section 01350, CRI Green Label Plus, Floorscore [*This credit is a requirement associated with J4: EPA IAP])	0			3		
Yes	4. All carpet and 50% of Resilient Flooring is low emitting. (CALGreen code if applicable)	Y					
Total Available Points in Flooring = 8		0					
M. APPLIANCES AND LIGHTING			Points Available Per Measure				
Yes	1. Install ENERGY STAR Dishwasher (Must Meet Current Specifications)	2		1			1
	2. Install ENERGY STAR Clothes Washer						
Yes	a. Meets ENERGY STAR and CEE Tier 2 Requirements (Modified Energy Factor 2.0, Water Factor 6.0 or less)	3		1			2
TBD	b. Meets ENERGY STAR and CEE Tier 3 Requirements (Modified Energy Factor 2.2, Water Factor 4.5 or less)	0					2
	3. Install ENERGY STAR Refrigerator						
Yes	a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity	1		1			
TBD	b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity	0		1			
	4. Install Built-In Recycling Center or Composting Center						
TBD	a. Built-In Recycling Center	0				1	
TBD	b. Built-In Composting Center	0				1	
	5. Install High-Efficacy Lighting and Design Lighting System						
TBD	a. Install High-Efficacy Lighting	0		1			
TBD	b. Install a Lighting System to IESNA Footcandle Standards or Hire Lighting Consultant	0					
Total Available Points in Appliances and Lighting = 13		6					
N. OTHER			Points Available Per Measure				
Yes	1. Required: Incorporate GreenPoint Rated Checklist in Blueprints [*This credit is a requirement associated with J4: EPA IAP]	Y					R
Yes	2. Pre-Construction Kick-Off Meeting with Rater and Subs	1					
TBD	3. Homebuilder's Management Staff are Certified Green Building Professionals	0					
	4. Develop Homeowner Education						
Yes	a. Develop Homeowner Manual of Green Features/Benefits (CALGreen code if applicable) [*This credit is a requirement associated with J4: EPA IAP]	2					

Pleasanton Gateway - Row House

Pete Kennedy

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Planning Scoresheet

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	b. Conduct Educational Walkthroughs (Prerequisite is N4a) [*This credit is a requirement associated with J4: EPA IAP]	0					
TBD	5. Install a Home System Monitor OR Participate in a Time-of-Use Pricing Program	0		1			
Total Available Points in Other = 6		3					

O. COMMUNITY DESIGN & PLANNING

1. Develop Infill Sites

TBD	a. Project is an Urban Infill Development	0	1			1	
No	b. Home(s)/Development is Located within 1/2 Mile of a Major Transit Stop	0	2				
No	2. Build on Designated Brownfield Site	0	1				

3. Cluster Homes & Keep Size in Check

TBD	a. Cluster Homes for Land Preservation	0	1			1	
No	b. Conserve Resources by Increasing Density (10 Units per Acre or Greater)	0	2			2	
0	c. Home Size Efficiency	0				0	

4. Design for Walking & Bicycling

5	a. Site Has Pedestrian Access Within 1/2 Mile of Community Services: TIER 1: Enter Number of Services Within 1/2 Mile 1) Day Care 2) Community Center 3) Public Park 4) Drug Store 5) Restaurant 6) School 7) Library 8) Farmer's Market 9) After School Programs 10) Convenience Store Where Meat & Produce are Sold						
7	TIER 2: Enter Number of Services Within 1/2 Mile 1) Bank 2) Place of Worship 3) Laundry/Cleaners 4) Hardware 5) Theater/Entertainment 6) Fitness/Gym 7) Post Office 8) Senior Care Facility 9) Medical/Dental 10) Hair Care 11) Commercial Office or Major Employer 12) Full Scale Supermarket						
	i. 5 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	1	1				
	ii. 10 Services Listed Above (Tier 2 Services Count as 1/2 Service Value)	0	2				
No	b. Development is Connected with A Dedicated Pedestrian Pathway to Places of Recreational Interest Within 1/4 mile	0	1				
Yes	c. Install Traffic Calming Strategies (Minimum of Two): - Designated Bicycle Lanes are Present on Roadways; - Ten-Foot Vehicle Travel Lanes; - Street Crossings Closest to Site are Located Less Than 300 Feet Apart; - Streets Have Rumble Strips, Bulbouts, Raised Crosswalks or Refuge Islands	2	2				

5. Design for Safety & Social Gathering

Yes	a. All Home Front Entrances Have Views from the Inside to Outside Callers	1	1				
Yes	b. All Home Front Entrances Can be Seen from the Street and/or from Other Front Doors	1	1				
No	c. Orient Porches (min. 100sf) to Streets and Public Spaces	0	1				
Yes	d. Development Includes a Social Gathering Space	1	1				

6. Design for Diverse Households (6a. is a Prerequisite for 6b. and 6c.)

TBD	a. All Homes Have At Least One Zero-Step Entrance	0	1				
TBD	b. All Main Floor Interior Doors & Passageways Have a Minimum 32-Inch Clear Passage Space	0	1				
TBD	c. Locate Half-Bath on the Ground Floor	0	1				
No	d. Provide Full-Function Independent Rental Unit	0	1				

Total Achievable Points in Community Design & Planning = 35

6

P. INNOVATION

A. Site

1. Stormwater Control: Prescriptive Path (Maximum of 3 Points, Mutually Exclusive with PA2.)

TBD	a. Use Permeable Paving for 25% of Driveways, Patios and Walkways	0	1				
Yes	b. Install Bio-Retention and Filtration Features	2	2				

Possible Points

Pleasanton Gateway - Row House

Pete Kennedy

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Planning Scoresheet

		Points Targeted	Community	Energy	IAQ/Health	Resources	Water
TBD	c. Route Downspout Through Permeable Landscape	0	1				
TBD	d. Use Non-Leaching Roofing Materials	0	1				
TBD	e. Include Smart Street/Driveway Design	0	1				
TBD	2. Stormwater Control: Performance Path (Mutually Exclusive with PA1): Perform Soil Percolation Test and Capture and Treat 85% of Total Annual Runoff	0	3				
C. Landscape							
TBD	1. Meet Local Landscape Program Requirement	0					2
D. Structural Frame & Building Envelope							
1. Design, Build and Maintain Structural Pest and Rot Controls							
TBD	a. Locate All Wood (Siding, Trim, Structure) At Least 12" Above Soil	0			1		
TBD	b. All Wood Framing 3 Feet from the Foundation is Treated with Borates (or Use Factory-Impregnated Materials) OR Walls are Not Made of Wood	0			1		
TBD	2. Use Moisture Resistant Materials in Wet Areas: Kitchen, Bathrooms, Utility Rooms, and Basements [*This credit is a requirement associated with J4: EPA IAP]	0			1	1	
E. Exterior							
TBD	1. Vegetated Roof (Minimum 25%)	0	2	2			
G. Plumbing							
TBD	1. Greywater Pre-Plumbing (Includes Washing Machine at Minimum)	0					1
TBD	2. Greywater System Operational (Includes Washing Machine at Minimum)	0					2
TBD	3. Innovative Wastewater Technology (Constructed Wetland, Sand Filter, Aerobic System)	0					1
TBD	4. Composting or Waterless Toilet	0					2
TBD	5. Install Drain Water Heat-Recovery System	0		1			
TBD	6. Install a Hot Water Desuperheater	0		2			
H. Heating, Ventilation, and Air Conditioning							
TBD	1. Humidity Control Systems (Only in California Humid/Marine Climate Zones 1,3,5,6,7) [*This credit is a requirement associated with J4: EPA IAP]	0			1		
TBD	2. Design HVAC System to Manual T for Register Design	0		1			
K. Finishes							
TBD	1. Materials Meet SMaRT Criteria (Select the number of points, up to 5 points)	0				5	
N. Other							
TBD	1. Detailed Durability Plan and Third-Party Verification of Plan Implementation	0				2	
2. Educational Signage of Project's Green Features							
TBD	a. Promotion of Green Building Practices	0	1				
TBD	b. Installed Green Building Educational Signage	0	1				
3. Innovation: List innovative measures that meet green building objectives. Enter in the number of points in each category for a maximum of 4 points for the measure in the blue cells. Points achieved column will be automatically fill in based on the sum of the points in each category. Points and measures will be evaluated by Build It Green.							
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
TBD	Innovation: Enter up to 4 Points at right. Enter description here	0	0	0	0	0	0
Total Achievable Points in Innovation = 33+		2					
Q. CALIFORNIA CALGreen CODE			Possible Points				
Yes	0. Home meets all applicable CALGreen measures listed in above Sections A - P of the GreenPoint Rated checklist.	Y	R				

Pleasanton Gateway - Row House

Pete Kennedy

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Planning Scoresheet

Points Targeted

Community

Energy

IAQ/Health

Resources

Water

The following measures are mandatory in the CALGreen code and do not earn points in the GreenPoint Rated Checklist, but have been included in the Checklist for the convenience of jurisdictions.

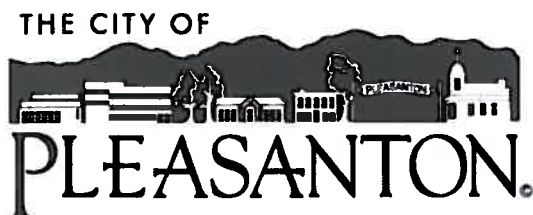
The GreenPoint Rater is not a code enforcement official. The measures in this section may be verified by the GreenPoint Rater at their own discretion and/or discretion of the building official.

TBD	1. CALGreen 4.106.2 Storm water management during construction.	N				
TBD	2. CALGreen 4.106.3 Design for surface water drainage away from buildings.	N				
TBD	3. CALGreen 4.303.1 As an alternative to prescriptive compliance, a 20% reduction in baseline water use shall be demonstrated through calculation	N				
TBD	4. CALGreen 4.406.1 Joints and openings. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected	N				
TBD	5. CALGreen 4.503.1 Gas fireplace shall be a direct-vent sealed-combustion type. Woodstove or pellet stove shall comply with US EPA Phase II emission limits	N				
TBD	6. CALGreen 4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations.	N				
TBD	7. CALGreen 4.505.3 19% moisture content of building framing materials	N				
TBD	8. CALGreen 702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	N				
Total Achievable Points in California Green Code = 0		0				

Summary

Total Available Points			44	96+	44	109	59
Minimum Points Required			0	30	5	6	9
Total Points Targeted		126	10	60	9	17	30

Project has met all minimum requirements



Housing Commission Agenda Report

July 23, 2013

Item 10

- SUBJECT:** Approval of an Affordable Housing Agreement with Pleasanton Gateway, LLC for a 307 Residential Development at 1600 Valley Avenue (PUD-96)
- STAFF RECOMMENDATION:** Review the attached Affordable Housing Agreement (AHA) and recommend its approval by the City Council
- ATTACHMENTS:**
1. Recommended Affordable Housing Agreement
 2. HUD 2013 Income and Typical Rent Levels

BACKGROUND

Pleasanton Gateway, LLC proposes to construct 210 apartment units, 97 single-family detached units, a central recreation area and other project amenities, such as pedestrian trails and walkways and a community garden on the approximately 26.72-acre property located at 1600 Valley Avenue. The proposed project provides a combined active/passive recreation area including a recreation building containing a business center, conference facilities, gymnasium, and media center, leasing office for the apartments, a private 1.3-acre community park for the entire development, and outdoor amenities such as swimming pool/spa, bar-be-que and fire pit areas, tot lot, cabanas, outdoor seating, and a bocce ball court. Because the project is more than 15 units it is subject to the City's Inclusionary Zoning Ordinance regarding affordable housing units. Staff has met with the developer and is recommending an affordable housing agreement (AHA) detailing the type of affordability that is proposed for the development.

As detailed below, the proposed site plan "feathers" densities in a west to east direction from the I-680 freeway to Valley Avenue – 3-story tall apartments to 3-story tall single-family homes to the 2-story tall single-family homes facing Valley Avenue. Surrounding uses are as follows:

Table 1: Surrounding Uses

Direction	Land Use
North	Pleasanton Gateway shopping center with commercial uses including a Safeway grocery store and service station, restaurants, retail, and personal services.
East	Vacant land, Kensington apartments, Wild Rose Park, and the Walnut Hills single-family homes.
South	Bernal Property park site, future public trails, and storm water retention/treatment ponds.
West	I-680 freeway and the Bernal Avenue/I-680 off-ramp.

Below is an aerial photograph of the subject property with the proposed project, the surrounding uses and developments, and the Pleasanton Gateway shopping center which was under construction when the photograph was taken.

Proposed Location Map



The anticipated unit mix of the development is as follows:

Anticipated Unit Mix

Unit Type	Number of Units
1-bedroom units	116
2-bedroom units	86
3-bedroom units	8
Single Family Homes ⁽¹⁾	97
Total Units	307

1. Average square footage 3,164

DISCUSSION

As part of the May 1 joint Housing Commission and City Council workshop, the Council endorsed staff pursuing a flexible model for attempting to achieve affordable rent restricted units in new residential rental developments. As such, it encouraged all to attempt and strive to meet the IZO in a flexible, negotiated way recognizing the fact that the City has multiple interests it is trying to address, including parking, school impact needs, and affordable housing, all of which fuel the outcome of negotiations. Based on this direction, staff has focused its efforts on pursuing creative options for meeting long term affordable housing needs.

As a point of reference, since the Urban Habitat Settlement Agreement and approval of updated General Plan Housing Element, the City Council has approved three apartment rental developments with the following affordable components:

Summary of Recently Approved Apartment Developments

Development	Total Units	Affordable Units	Percent Affordable	Description
BRE Hacienda	506	76	15%	All units at 50% AMI
California Center	305	46	15%	8 @50% AMI; 15@80% AMI; 23@100 AMI
St. Anton	168	35	20%	All units at 50% AMI; potential for additional 100% AMI units pending final IUC credits disposition
Auf der Maur	345	52	15%	10 @50% AMI; 17@80% AMI; 25@100 AMI (Pending city council approval)

In view of the City Council's direction at the joint workshop, staff's negotiation with Pleasanton Gateway included various ways of meeting the intent of the IZO with the goal of maximizing the number of onsite units. As an outcome of the negotiations, a recommended draft Affordable Housing Agreement (AHA) has been prepared. A listing the AHA's most notable terms are as follows:

- Provide 32 units (15% of the total rental units) as rent restricted affordable units as follows:

Bedroom	Affordable Unit Mix			
	50% AMI	80% AMI	Total	%
1-Bedroom	9	9	18	56%
2-Bedroom	6	7	13	41%
3-Bedroom	1	0	1	3%
Total	16	16	32	100%

- Pay the City' Lower Income Housing Fee in the amount of \$5,356 for each of the 97 single family homes for a payment of \$519,532.
- Unit household sizes for determining rents will be consistent with standards used typically in the City's AHA's. (Section 1(B) of the AHA)
- The agreement will be recorded with the land and remain affordable for perpetuity.

- Requires the development to accept Section 8 housing vouchers from eligible qualified applicants.
- Affordable units will be marketed by the developer and rented based on the City's adopted preference system.
- One of the affordable 1-bedroom units, one affordable 2-bedroom units and one affordable 3-bedroom units shall be fully accessible for the physically disabled. Unit design shall include amenities such as grab bars, modified case work and bathroom facilities and other amenities deem significant for disabled access.

In determining the most appropriate way for this development to meet its overall affordability requirement, staff's focus was on maximizing the project's ability to provide low and very low income units. This was also the focus of South Bay. Further, while the City currently maintains a number of affordable ownership units, staff was not interested in increasing its inventory due administrative issues, limited benefit, and the fact that doing so would most likely result in fewer affordable rental units. Further, as part of the City's overall negotiations regarding affordability, it has indicated a willingness to provide financial support to a development if it resulted in a meaningful increase of project affordability. As a result, staff and the developer determined that "exchanging" fees paid on ownership units for more rental affordability was beneficial to both parties. Further, while the agreed upon \$5,356 fee for the ownership units is less than the \$10,713 in effect for single family homes in excess of 1,500 sq ft (which these homes will be) it is more than the fee of \$2,655 in place for homes less than 1,500 square feet and as a result, staff does not view this "exchange" as overly burdensome concession.

Regarding compliance with the Inclusionary Zoning Ordinance's (IZO), staff has determined the combination of 32 units rent restricted at low and very low incomes and the payment of the LIUHF results in the development meeting the IZO.

Regarding compliance with the City's Housing Site Standards and Design Guidelines which stipulate that 10% of the affordable units will be 3-bedroom units and 35% will be 2-bedroom units, the development exceeds the 2-bedroom requirement but falls short of the 3-bedroom requirement by approximately two units. In assessing this situation, staff considered the fact that there are no affordable studio units which is seen as a benefit, that the one affordable 3-bedroom unit is at 50% AMI, and that overall the 16 very low income units exceed the number of units provided in the California Center and Auf der Maur developments both of which have more total units. Finally, the total number of two and three bedroom units equals the total number (45%) included in the Design Guidelines. As a result, staff determined that the project meeting the intent of the Design Guidelines.

As outlined in the IZO, the Housing Commission's role is to recommend the City Council accept, reject or amend the terms of the attached AHA. The Commission may also make recommendations to the Planning Commission concerning conformance with the IZO. However, the Planning Commission does not have an identified role in determining project affordability, and therefore, any such recommendation would be related project planning issues as they relate to affordable units. Based on review of the overall project site plan, staff has not identified any concern regarding building or site design that impact affordability. Should the Commission

reject the recommend AHA, staff recommends that it provide detailed feedback to the City Council for consideration as part of its development review. A request for specific amendments may also be discussed and forwarded to the City Council.

Overall, staff's opinion it that the draft AHA is consistent with the IZO, that is meets the intend of the Design Guidelines, and that it provides the type of flexibility the City Council requested as part of the joint workshop with the Housing Commission and therefore it recommends approval of the agreement.

**Recorded at the Request of
and when recorded, return to:**

**City of Pleasanton
P.O. Box 520
Pleasanton, CA 94566**

Exempt per Gov. Code §27383

AFFORDABLE HOUSING AGREEMENT

This **AFFORDABLE HOUSING AGREEMENT** ("Agreement") is made this _____ day of _____, 2013, by the **CITY OF PLEASANTON**, a Municipal Corporation ("City"), and **PLEASANTON GATEWAY, LLC**, a Delaware limited liability company ("Developer").

Recitals

- A. Developer currently owns a legal or equitable interest in a 27-acre site at 1600 Valley Avenue, Pleasanton, California, more particularly described in Attachment 1 attached hereto and incorporated herein by reference (the "Property").
- B. For the Property, Developer has obtained all necessary entitlements to develop a housing development including 210 apartment units and 97 single family ownership units for a total of 307 units (collectively the "Project").
- C. Developer and the City wish to make a certain number of the apartment units within the Project available to households with incomes between sixty percent (60%) (low income) and fifty percent (50%) (very-low income) of the Area Median Income.
- D. Area Median Income (AMI) shall mean the area median income for the San Francisco-Oakland-Fremont Metropolitan Statistical Area adjusted for household size in accordance with adjustment factors adopted and amended from time to time by the United States Department of Housing and Urban Development (HUD) pursuant to Section 8 of the United States Housing Act of 1937 or any successor statute.
- E. Execution of this Agreement meets the requirements of the City's Inclusionary Zoning Ordinance for the apartment units and shall be in lieu of paying the City's Lower Income Housing Fee for the Project.
- F. In recognition of the level of affordability provided for the apartment units, the 97 single family ownership units shall pay the City's Lower Income Housing Fee at a rate of \$5,356 per unit.

NOW, THEREFORE, in consideration of the mutual covenants, agreements and

conditions contained herein, City and Developer agree as follows:

1. Of the 210 apartment units, 32 shall be "Affordable" units. Developer shall make sixteen (16) Affordable units available for rent to households at or below 50% of the Area Median Income and sixteen (16) Affordable units available for rent to households at or below 60% of the Area Median Income as set forth herein. The Affordable units shall be consistent with the following:

- A. The Affordable unit mix shall be as follows:

Unit Type	Very Low Income (50% of AMI)	Low Income (60% of AMI)	Total Units
1 Bedroom	9	9	18
2 Bedroom	6	7	13
3 Bedroom	1	0	1
Total	16	16	32

- B. Affordable unit rents shall be based on the following household sizes:

Unit Type	Household Size
1 Bedroom Unit	Two (2) person household
2 Bedroom Unit	Three(3) person household
3 Bedroom Unit	Five (5) person household

- C. The monthly rent for each of the Affordable units shall be calculated based on the following:

- (i) The sixteen (16) Affordable units at Very-Low Income shall not exceed one-twelfth of 50 % of the Area Median Income adjusted for the household sizes listed in Section B above multiplied by 30%.
- (ii) The sixteen (16) Affordable units at Low Income shall not exceed one-twelfth of 60 % of the Area Median Income adjusted for the household sizes listed in Section B above multiplied by 30%.

- D. Rent for Affordable units shall be based on the AMI at the time of the City issues Certificate of Occupancy and shall adjust consistent with HUD's adjustment in the AMI. If HUD fails to issue revised Area Median Income/ household income statistics for the San Francisco-Oakland-Fremont Metropolitan Statistical Area within 15 months of the previous revision, rents for the Affordable units may be adjusted based on the annual percentage increase in the San Francisco-Oakland Consumer Price Index for urban wage earners and clerical workers.

- E. The rents described herein shall exclude utilities in the broadest sense, including, but not limited to gas, electricity, water, garbage, television cable, telephone, and internet service; provided, however, that if any or all

of such utilities are offered at no cost to market rate units they shall also be offered at no cost to the Affordable units.

- F. The Affordable units shall be dispersed throughout the apartment units located in the Project unless otherwise approved by the City. The Affordable units shall not be fixed and may change within the apartment units depending on vacancies.
 - G. The Affordable units shall have the same interior standards of quality (e.g., appliances, interior features/amenities, services, etc.) as the market rate units.
 - H. All Affordable units shall be rented to qualified applicants in accordance with the City's Preference System, as may be amended, with the most current version set forth in Attachment 2.
 - I. Once each year, the Developer (or the Developer's successor in interest) shall provide the City a report detailing the average annual income of tenants occupying the Affordable units for each of the income categories listed in Section 1(A) above, the number persons in each household occupying the Affordable units, the number of vacancies and new rentals during the year for the Affordable units.
 - J. All Affordable units shall be subject to this Agreement for perpetuity.
2. The Developer, with City consultation, shall assume all responsibility to market the Affordable units. Marketing shall be in accordance with City eligibility and income guidelines in-conformance with the City's Preference System. Marketing material, leases, rent-up schedules and-other printed material related to the Affordable units is subject to City approval.
 3. One of the Affordable 1-bedroom units, one Affordable 2-bedroom unit, and one Affordable 3-bedroom unit as included in 1(A) above shall be fully accessible for the physically disabled. Unit design shall include amenities such as grab bars in bathrooms, modified case work, wide doors, sufficient clear floor space for wheelchairs, lower countertop segments, seats at bathing fixtures, knee space under sinks and counters, switches and controls in easily reached locations, entrances free of steps and stairs, an accessible route through the units, and other amenities deemed significant for disabled access. Developer may utilize adaptable design features such as removable grab bars, concealed knee space under sinks and adjustable counterparts as approved by City to facilitate non-disabled tenants. Developer shall market the availability of these units to disability support groups and maintain an active waiting list of interested disabled persons, but may rent to any applicant if a qualified disabled applicant is not available for a period of twenty-one (21) days after the initial marketing. If the disabled unit is rented to a non-disabled person, Developer shall attempt to facilitate relocation to a non-disabled unit should a qualified disabled applicant become available.
 4. Developer shall accept Section 8 vouchers as a means of assisting qualified

applicants/residents.

5. The City's Lower Income Housing Fee for the ninety-seven (97) single family ownership units shall be \$5,356 per unit for a total amount of \$519,532 for all 97 units which shall be payable upon certificates of occupancy.
6. This Agreement shall be recorded in Alameda County and shall run with the land.

THIS AGREEMENT is executed the date and year first above written.

CITY:

CITY OF PLEASANTON, a Municipal Corporation

By:

Nelson Fialho
City Manager

ATTEST:

Karen Diaz, City Clerk

APPROVED AS TO FORM:

Jonathan P. Lowell, City Attorney

DEVELOPER:

PLEASANTON GATEWAY, LLC, a Delaware limited liability company

By:

SB Pleasanton, LLC
A California limited liability company
Its Manager

Name

Title

Attachments:

- 1. Legal Description**
- 2. City of Pleasanton Preference System**

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____, 2013 before me _____,
personally appeared _____ who proved to me on the basis of satisfactory
evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies),
and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

I certify under PENALTY of PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____ (Seal)

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____, 2013 before me _____,
personally appeared _____ who proved to me on the basis of satisfactory
evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies),
and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

I certify under PENALTY of PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____ (Seal)

ATTACHMENT 1

LEGAL DESCRIPTION

Real Property in the City of Pleasanton, County of Alameda, State of California, described as follows:

ATTACHMENT 2
CITY'S PREFERENCE SYSTEM

[Attached]

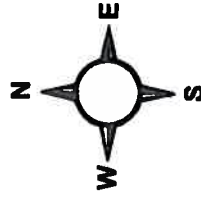
PUD-96

City of Pleasanton

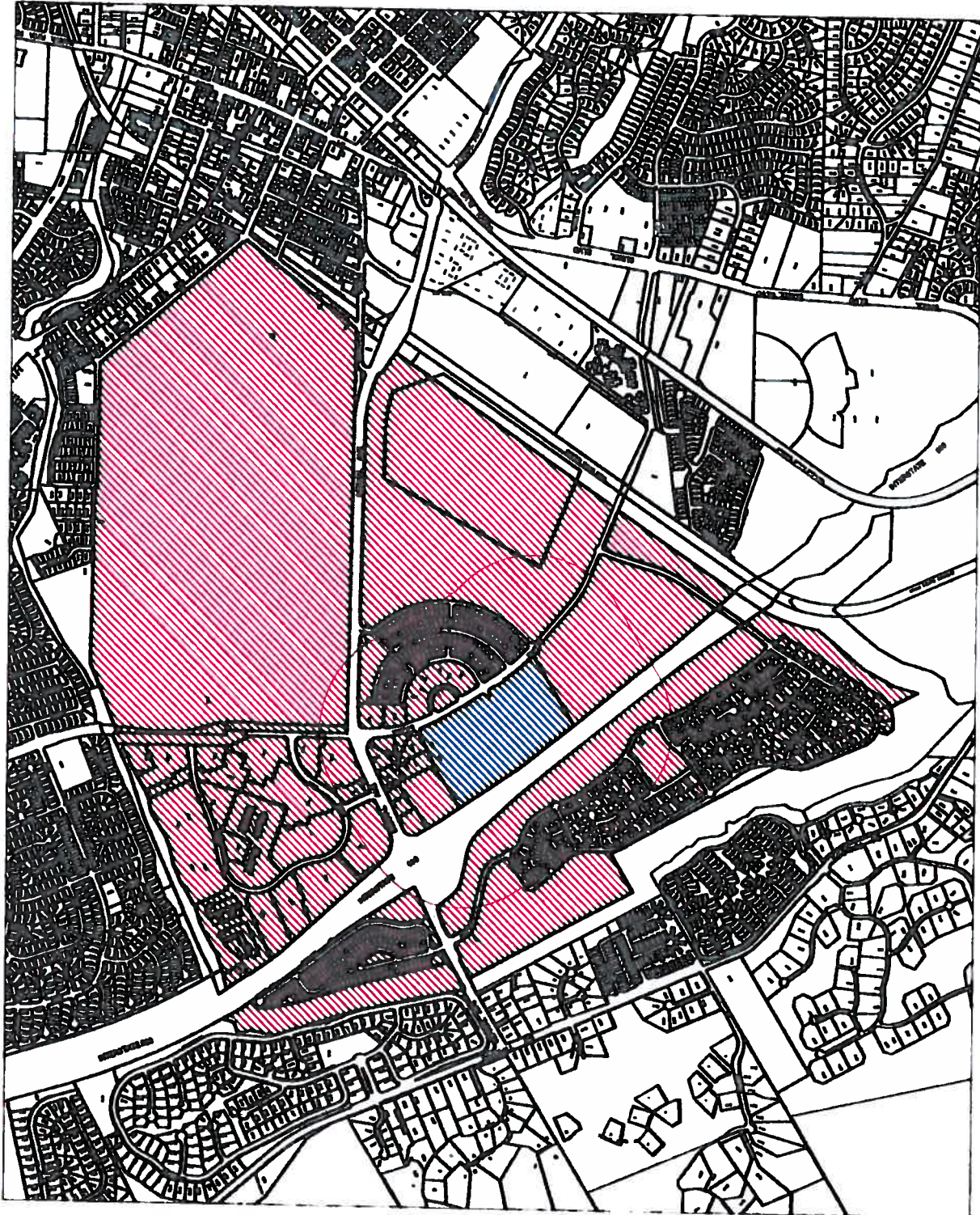
GIS

Department

Notification Area



Printed 3/27/2013



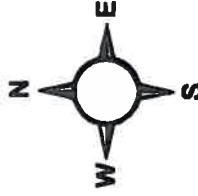
PUD-96

City of Pleasanton

GIS

Department

Notification Area



Printed: 5/27/2013

