

**EXHIBIT A
VESTING TENTATIVE TRACT MAP 8020
PTR-8020/STAPLES RANCH
DRAFT CONDITIONS OF APPROVAL**

DEFINITIONS

For the purposes of these Conditions of Approval the following definitions apply:

1. ACSPA: "ACSPA" shall mean the Alameda County Surplus Property Authority.
2. City: Unless otherwise specified, "City" shall mean the City of Pleasanton.
3. Cost-Sharing Agreement: "Cost-Sharing Agreement" shall mean the agreement entered into between the Surplus Property Authority of Alameda County, City of Livermore, and City of Pleasanton dated September 4, 2007.
4. Development Agreement: "Development Agreement" shall mean the agreement entered into between the City of Pleasanton and the Surplus Property Authority of Alameda County for the Staples Ranch project, pursuant to California Government Code § 65864 and § 65865.
5. EIR: "EIR" shall mean the Stoneridge Drive Specific Plan Amendment/Staples Ranch project Environmental Impact Report certified on February 24, 2009, and the Final Environmental Impact Report Supplement (SEIR) certified on August 24, 2010.
6. Neighborhood Park: "Neighborhood Park" shall mean the neighborhood park planned for the Staples Ranch Site.
7. Neighborhood Park/Detention Basin Funding and Improvement Agreement: "Neighborhood Park/Detention Basin Funding and Improvement Agreement" shall mean the agreement between the City of Pleasanton and the Surplus Property Authority of Alameda County and/or the developers of the Staples Ranch Site regarding the design, construction, and funding of the Staples Ranch Neighborhood Park and/or the storm water detention basin in the Staples Ranch Neighborhood Park.
8. Pre-Development and Cooperation Agreement: "Pre-Development and Cooperation Agreement" shall mean the agreement entered into between the City of Livermore, County of Alameda, Surplus Property Authority of the County of Alameda, City of Pleasanton, and CalMat Co., dba Vulcan Materials Company, Western Division dated September 18, 2007.
9. PSE: "PSE" shall mean public service easement.
10. PUD: "PUD" shall mean planned unit development.

11. Specific Plan: "Specific Plan" shall mean the Stoneridge Drive Specific Plan Amendment/Staples Ranch, adopted August 24, 2010 by the City Council.
12. Staples Ranch Site: "Staples Ranch Site" shall mean the approximately 124-acre project area where the Staples Ranch planned unit developments are proposed.

CONDITIONS OF APPROVAL

1. Vesting Tentative Map Tract 8020 shall be as shown on the vesting tentative map plans and related exhibits, Exhibit B, dated "Received October 4, 2010", except as modified by the following conditions. Minor changes to the plans may be allowed subject to the approval of the Director of Community Development if found to be in substantial conformance to the approved exhibits.
2. The project shall comply with the applicable mitigation measures of the Stoneridge Drive Specific Plan Amendment/Staples Ranch EIR Mitigation Monitoring and Reporting Plan (MMRP), provisions of the Stoneridge Drive Specific Plan Amendment/Staples Ranch (SPA), dimensions (e.g., public service easements, setbacks, trail widths, landscaping area widths, etc.) of PUD-57, PUD-68, and PUD-80 and provisions of the agreements listed in the definition section of PUD-57 (agreements). If the conditions of approval for this case conflict with the MMRP, SPA, dimensions of PUD-57, PUD-68, and/or PUD-80, and/or the agreements, the MMRP, SPA, PUDs, and agreements apply.
3. All improvements shall be subject to the review and approval of the City Engineer.
4. Prior to approval of the improvement plans, the applicant shall submit written verification of Zone 7's approval of all: 1) proposed improvements on Zone 7's property, including all grading, temporary structures, temporary supports, paving, bridges, etc.; 2) access roads to the Arroyo Mocho maintenance roads, including all grading, paving, gates, etc., and 3) the hydraulic modeling, scour analysis and any proposed scour and erosion protection.
5. If feasible the bridge light standards (poles and fixtures) shall be a maximum of 15' in height and, to the extent feasible, shall be similar in appearance to the residential street light standard design shown in Exhibit B of PUD-68 and shall use LED lighting. The final design shall be subject to the review and approval of the Director of Community Development.
6. The design of the pedestrian portions of the bridge shall be aesthetically enhanced. The enhancement shall be subject to the review and approval of the Director of Community Development prior to improvement plan approval.
7. The sidewalks on the bridge will be 8' in width and the bike lanes over the bridge will be 6' in width.
8. On the bridges, there will be at least 1' of clear space between the center-most travel lanes and center abutment.
9. Bridge construction will require special plan checks and inspections and the applicant will be responsible for all plan check and inspection costs as determined by the City Engineer.

10. Prior to approval of the improvement plans, hydraulic modeling and scour erosion analysis for the actual Stoneridge Drive bridge designs shall be completed and approved by Zone 7. Hydraulic modeling and scour analysis shall demonstrate that post-construction channel flow rates for 100-year ultimate build-out storm event, channel capacity, and channel velocities in the Arroyo Mocho do not negatively impact the bed or banks of the arroyo and that where such impacts may occur, scour and erosion protection is adequately addressed. The hydraulic modeling and scour analyses, as well as improvements within Zone 7 right-of-way, shall conform to Zone 7 design standards and be subject to review and approval by Zone 7; the City Engineer shall oversee the review. The ACSPA shall be responsible for the hydraulic modeling.
11. Before the final design of the bridge plans is started, the depth of the LAVMA line south of the proposed bridges shall be potholed. The applicant's engineer shall provide the pothole information to the City Engineer.
12. The location of the entrance road into the basin shall be revised to match the location of the entrance road shown on PUD-80, unless otherwise determined by the City Engineer and the Director of Parks and Community Services.
13. Prior to the recordation of the final map, grading for the basin shall be revised to show a temporary 8' wide aggregate base (AB) maintenance road around the top of the basin. The road shall be designed to support maintenance vehicles and shall be subject to the review and approval of the City Engineer.
14. The entrance road into the basin shall be a hard surface which can support emergency and maintenance vehicles, unless otherwise determined by the City Engineer and Director of Parks and Community Services. The hard surface shall be colored concrete. The final design and color of the surface will be subject to the review and approval of the Director of Community Development.
15. The 4' tall basin fence and gates will be installed in the basin as generally shown in PUD-80. The final fence design and color shall be subject to the review and approval of the Director of Community Development.
16. All public landscaping shall adhere to the City of Pleasanton's adopted Bay Friendly Landscape Guidelines. Compliance with the guidelines will be determined by the Director of Parks and Community Services.
17. To the extent feasible, street medians shall be landscaped.
18. The project's public improvements shall comply with the State of California's Model Water Efficient Landscape Ordinance. A licensed landscape architect shall verify the project's compliance with the ordinance prior to acceptance of the final improvements. The verification shall be provided to the Engineering Division.

19. The weir's surface will be rip rap. The color and stone type will be subject to the review and approval of the City Engineer prior to approval of final improvement plans.
20. The size of the weir will be reduced to the extent feasible as determined by the City Engineer.
21. In all City rights of way all irrigation systems including pipes, valves, heads, boxes, etc. shall be designed for the use of recycled water, unless waived by the City Engineer.
22. The applicant shall construct temporary aggregate base (AB) vehicle access roads and related improvements (including gates, barriers, etc.) for Zone 7 and the City of Pleasanton on both northern and southern Arroyo Mocho maintenance roads (by the bridges), prior to bridge construction, unless already constructed or bonded for by the developers of PUD-68 and PUD-70.
23. The applicant shall construct the permanent multi-use paved public trail connection from the southern boundary of lot 5 to the northern Arroyo Mocho maintenance road. Required improvements may include grading, gates, barriers, and similar features. A running path shall be included if feasible. Any trail improvements within Zone 7 property shall be subject to review and approval by Zone 7 to ensure that design does not interfere with Zone 7's primary use of the maintenance road for flood protection activity.
24. The City of Pleasanton may construct a paved public multi-use (pedestrian, bicycle, etc.) trail connection to the southern Arroyo Mocho maintenance road. Required improvements may include grading, gates, barriers and similar features. A running path shall be included if feasible. Any trail improvements within Zone 7's property shall be subject to review and approval by Zone 7 to ensure that design does not interfere with Zone 7's primary use of the maintenance road for flood protection activity.
25. Prior to any grading on lot 2, the applicant shall pay \$26,150 into the City's Urban Forestry Fund as mitigation for the removal of trees on the 11± acre commercial parcel.
26. Prior to issuance of grading permits on lots 6 and 7, the applicant shall install an orange plastic construction fence, or equivalent as determined by the City Engineer, at the driplines of the trees on lots 6 and 7. The tree protection zone shall be subject to the review and approval of the City Engineer prior to grading. If a fence is difficult to place due to existing berm grading, it may be placed farther away from the tree driplines, if deemed appropriate by the City Engineer.
27. Prior to grading, the applicant shall provide written verification from Zone 7 to the City Engineer that all unused or abandoned wells have been properly destroyed.

28. Prior to grading the applicant shall provide written verification from Zone 7, PG&E, and AT&T that the proposed grading plan is supportable if grading is proposed on or near the existing Zone 7, PG&E, or AT&T utility easements, as determined by the City Engineer.
29. The applicant shall check the site for the existence of abandoned septic tanks and drain lines. If they are found to exist on the site, they should be excavated and removed from the site prior to grading as determined by the City Engineer.
30. As required by and subject to the Pre-Development and Cooperation and Cost-Sharing Agreements if the improvements to El Charro Road and the flood improvements are not already under construction or bonded for by the City of Livermore for the El Charro Specific Plan development, the ACSPA shall construct these improvements as part of any first phase of Staples Ranch development. Any such roadway and flood control improvements shall be constructed so as to comply with all applicable provisions of the Pre-Development and Cooperation Agreement, including but not limited to Section 3.2 thereof.
31. The ACSPA shall replace the existing eight-inch water line in Staples Ranch Drive between Vermont place and the senior continuing care community site (PUD-68) with a new 12-inch water line. Prior to occupancy, the ACSPA shall install new house water service connections along Staples Ranch Drive to this new water main. The location of the new line, and the timing of the connections shall be subject to the review and approval of the City Engineer.
32. The 72" outfall leading to the Arroyo Mocho shall be maintained by the City of Pleasanton.
33. The applicant shall be responsible for conducting sonic vermin control immediately prior to and during grading and construction of public improvements. The details of the sonic rodent control measures, including the location of the sonic devices shall be submitted to and subject to the review and approval of the Planning Manager prior to the issuance of a grading permit or building permit, whichever is sooner. The approved measures shall be included in the plan sets submitted for the issuance of a grading permit and the plans submitted for the issuance of a building permit.
34. Portable toilets used during construction shall be emptied on a regular basis as necessary to prevent odor.
35. Construction trailers shall be allowed to be placed on the project site for daily administration/coordination purposes during the construction period. 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.
36. Prior to the recordation of the final map, the eastern boundary of the property shall be reconciled with the City of Livermore's El Charro Road improvement plans such

that there is not a conflict by the eastern boundary of Lot 1 and the location of the El Charro Road right of way. The final location of the eastern boundary line of the map shall be subject to the review and approval of the City Engineer.

37. Prior to the recordation of the final map, the proposed public sidewalk easement on Lot 1 by El Charro Road shall be extended to Stoneridge Drive.
38. The applicant shall dedicate sufficient right of way along El Charro Road south of Stoneridge Drive to allow for the future extension of the south bound bike lane. The exact amount will be determined during the improvement plan and final map plan check stage.
39. The applicant shall dedicate a 15' wide PSE along the project's Stoneridge Drive frontage (both sides of the street).
40. Prior to the City's acceptance of the public improvements, the applicant shall install a temporary sign by Trevor Parkway and the southern Arroyo Mocho bridge stating the trail system will end and the distance to the end. The exact wording, location, and design of the sign shall be subject to the review and approval of the City Engineer.
41. Prior to the recordation of the final map, the section drawings shall be revised such that: 1) it is clear what is being constructed as part of the final map improvement plans and what is not, and 2) the responsible party to construct each improvement shall be clearly stated and consistent with the developer/ACSPA responsibilities as provided in the Specific Plan.
42. Prior to recordation of the final map, the Sheet Notes on Exhibit B shall be modified as follows:

Sheet 2 Notes:

Note 1

Before any final map is approved for recordation or improvement plans or individual lot grading plans are issued for construction, the City of Livermore or the applicant shall have started the construction or bonded for the following off-site improvements below.

El Charro Road improvements as prepared by Kier Wright and off-site flood control improvements located on the east side of El Charro Road subject to a CLOMAR/LOMAR submitted to FEMA.

A FEMA Letter of Map Amendment for the completed flood improvements will be required prior to the occupancy of any structure.

Note 3

Stoneridge Drive, El Charro Road (north of Stoneridge Drive) and Street A will be public streets owned in fee by the City of Pleasanton. El Charro Road southerly of Stoneridge Drive shall be dedicated in fee to the City of Pleasanton.

Note 4

Lot 3 shall be dedicated in fee to the City of Pleasanton with the first final map and Lot 4 shall be transferred to the City of Pleasanton in accordance with the Neighborhood Park Agreement for Purchase and Sale of Real Property between the applicant and the City of Pleasanton.

The notes on sheet 2 regarding lots 5, 6 and 7 shall be revised to include reciprocal private parking and access easements. These easements shall be shown on the final map and shall be granted with the sale of any of these lots.

The notes on sheet 2 regarding lots 5, 6 and 7 shall be shown on the final map and shall be revised to include reciprocal utility and drainage easements.

Sheet 3 Notes

All stockpiled material shown on the Conceptual Earthwork Distribution/Grading Exhibit noted to be moved to lots 5, 6, and/or 7 on the opposite side of Stoneridge Drive shall be moved prior to placing of utilities within Stoneridge Drive to avoid any potential damage to utilities unless otherwise approved by the City Engineer.

The applicant shall create temporary rights of entry to allow stockpiled material shown on the Conceptual Earthwork Distribution/Grading Exhibit to be moved to another lot. Additionally, the applicant shall create temporary cross drainage easements between adjacent lots to allow drainage flow across property lines until such time as the final grading is complete. On the final map, the applicant shall additionally create EVA and utility easements needed for PUD-57, PUD-68, and PUD-80, and the maintenance and access easements needed north of the proposed berm for PUD-68 as determined by the City Engineer.

Sheet 4 Notes

Before Stoneridge Drive between Trevor Parkway and El Charro Road is accepted by the City as a public road, a temporary 5' wide aggregate base pathway shall be constructed by the applicant on lot 3 on the south side of Stoneridge Drive between the southern Arroyo Mocho Bridge and the temporary access road to the Arroyo Mocho to allow pedestrians access to the arroyo, unless otherwise determined by the City Engineer.

Section A-A shall be revised to allow for a 11' left turn lane and, at a minimum, a 6' wide median island as shown on the plan view (synchronize cross section with plan view).

Sheet 7 Notes

Detail "A" shall be revised to reflect the existing 8" water main within Staples Ranch Drive easterly of Vermont Place to be abandoned and new water laterals to the existing homes shall be connected to the proposed 12" water main to avoid any water quality issues that could occur within the 8" waterline stub.

The applicant shall install reclaimed water line laterals of the size and approximate location as shown for domestic water supply lines along the Stoneridge Drive frontage. The domestic and reclaimed water line laterals shall be separated a minimum of 10' horizontally. The exact location and size of the laterals will be determined by the City Engineer.

Sheet 8 Notes

Drainage areas 1 and 2 and any paved trail connections shall be addressed with a note on the tentative improvement plans to indicate how hydromodification is being addressed for these drainage areas.

The access ramps to the Arroyo Mocho shall be added to the storm water treatment calculations.

Sheet 9 Notes

A sampling manhole shall be provided on Lot 4 by PUD-57's storm drain inlet. The location and design of the manhole shall be subject to the review and approval of the City Engineer.

43. A "Conditions of Approval" checklist shall be completed and attached to all plan checks submitted for approval indicating that all conditions have been satisfied.
44. The applicant shall comply with the recommendations of the project's geotechnical consultant. The project applicant's geotechnical consultant shall review and approve all public improvements and grading of the final improvement plans to ensure that the recommendations have been properly incorporated into the development. 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 with the project.
45. The project applicant shall arrange and pay for the geotechnical consultant to inspect and approve all public improvements and grading. The consultant shall be present on site during grading and excavation operations. The results of the inspections and the 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 acceptance of improvements.

46. The project applicant shall grant an easement to the City over those parcels 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.
47. The project applicant shall construct vertical P.C.C. curbs and gutters unless otherwise approved by the City Engineer.
48. 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 unless otherwise specifically approved by the City Engineer.
49. 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 applicant. This shall include slurry seal, overlay, or street reconstruction if deemed warranted by the City Engineer.
50. Prior to the acceptance of the final map improvements a maintenance association or district shall be required for the basin on lot 4 in accordance with the Neighborhood Park/Detention Basin Funding and Improvement Agreement, unless otherwise approved by the City Engineer.
51. The project applicant and/or the project applicant's contractor(s) shall obtain an encroachment permit from the City Engineer prior to moving any construction equipment onto the site.
52. The project applicant shall submit a final grading and drainage plan prepared by a licensed civil engineer depicting all final grades and drainage control measures, including concrete-lined V-ditches, to protect all cut and fill slopes from surface water overflow. This plan shall be subject to the review and approval of the City Engineer prior to the issuance of a grading permit.
53. The project applicant shall include erosion control measures on the grading plan, subject to the approval of the City Engineer. The project applicant 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 City Engineer. Such measures shall be maintained until such time as sufficient vegetation is established.
54. Storm drainage swales, gutters, inlets, outfalls, and channels not within the area of a dedicated public street or public service easement approved by the City Engineer shall be privately maintained by the property owners or through an association approved by the City.

55. The project applicant shall be responsible for the installation of the street lighting system serving the development. Not including the light standards on the bridge, the street lights shall be LED units mounted on galvanized steel poles with poured in place bases, on the LS-1C schedule per City requirements and PG&E standard details, unless otherwise specifically approved. The lighting system design shall conform to the Illuminating Engineering Society (IES). Approval for the number, location, and type of electroliers shall be subject to the review and approval of the City Engineer.
56. The project applicant shall submit detailed landscape and irrigation plans as part of the improvement plans. The irrigation plan shall provide for automatic controls. All landscaping and irrigation shall be subject to the review and approval of the Director of Operations Services, Parks and Community Services, and the Director of Community Development.
57. All existing drainage swales that are filled shall have subdrains installed unless otherwise approved by the City Engineer and the applicant's soils engineer. All subdrains shall have cleanouts installed at the beginning of the pipe. The end of the pipe shall terminate in a storm drain or other storm drain outfall, subject to the approval of the City Engineer. The applicant's engineer shall submit a final subdrain location map to the City Engineer prior to acceptance of the public improvements.
58. Prior to approval of the improvement plans, the project applicant shall submit written verification of plan approval from all applicable outside agencies having jurisdiction.
59. A detailed 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, etc., shall be submitted as part of the improvement plans.
60. There will be an attempt to achieve a public sanitary sewer pipe slope of 0.005 (0.5%) with a velocity of 2.0% per second. A slope of 0.003 (0.3%) is acceptable, if necessary, to meet site conditions.
61. There will be an attempt to achieve a gutter slope of 0.75%.
62. The improvement plans for this development shall contain signage and striping plans that are subject to the approval of the City Traffic Engineer.
63. Prior to the first plan check, the project applicant's engineer/surveyor shall submit a preliminary copy of the Final Map along with a preliminary copy of the title report and a copy of the adjoining deeds and/or recorded maps to the City. The City will forward these documents to its consultant who will estimate the cost for examining the map and certifying that the map is technically correct and in accordance with Section 66442 of the California Subdivision Map Act. After the consultant has provided a cost estimate, the project applicant's engineer/surveyor may submit the

first plan check along with a deposit for these costs along with all other standard plan check fees. Any unused portion of the estimate will be returned to the project applicant after the map is recorded. Similarly, if the project applicant withdraws their application in writing prior to the consultant having performed the work, any unused portion of the deposit will be returned to the project applicant. Conversely, should consultant's estimate be insufficient to cover all of the consultant's time, the project applicant will be required to pay the City the difference between the estimate and the actual cost prior to submittal of the map for the City Engineer's approval.

64. At the time project applicant submits the fee for the consultant map review, the project applicant shall also submit the following information to the City Engineer for review and approval:

- a. Two prints of the final parcel map
- b. One copy of the preliminary title report
- c. One set of the computer closures
- d. One legible copy of the latest recorded deed for the property being subdivided
- e. One legible copy of the recorded deeds for each of the adjacent properties unless those properties are part of a recorded map which has been recorded within the last seven years; and
- f. One legible copy of the Recorded Final map, Parcel Map, or Record of Survey used to prepare this Parcel Map.

65. The curb and gutter along the street shall have a subdrain 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.

66. The project applicant shall provide the City with a reproducible Mylar copy of the recorded map with all recording data shown.

67. When the map is submitted for the City Engineer's signature, the applicant shall provide the City with an electronic copy of the Final Map. In addition to the information shown on the final map, the electronic information submitted should include:

- Street names as approved by the Planning Division.
- Any dedications, open offers of dedication, or grants of easements may be dedicated and accepted on the face of the map. Agreement or other

required items shall be recorded as separate documents concurrently with the recordation of the final map.

68. As determined by the City Engineer, access to, around, and into the basin on lot 4 shall be provided to the City of Pleasanton during and after grading.

URBAN STORMWATER CONDITIONS OF APPROVAL

69. The provisions of NPDES No. CAS0029831 shall apply; provided, however, if an agency other than the City determines the provisions of NPDES No. CAS0029831 do not apply, City shall not be financially responsible for any increased costs to the applicant resulting therefrom.

70. The project shall also comply with the "Construction General Permit" by the California Regional Water Quality Control Board, San Francisco Bay Region:

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

Stormwater Design Requirements

71. The Permit design requirements include, but are not limited to, the following:

- The Permit requires a proactive pollutant reduction plan (aka Pesticide Plan) to reduce or substitute pesticide use with less toxic alternatives.
- The Permit requires complying with the Copper Pollutant Reduction Plan and the Mercury Pollutant Reduction Plan.

72. The following requirements shall be incorporated into the project:

- The project applicant shall submit a final grading and drainage plan prepared by a licensed civil engineer depicting all final grades and on-site drainage control measures including bio-swales. Irrigated bio-swales shall be redesigned as needed to the satisfaction of the City Engineer to optimize the amount of the stormwater running off the paved surface that enters the bio-swale at its most upstream end. This plan shall be subject to the review and approval of the City Engineer prior to the issuance of any building permits.
- In addition to natural controls the project applicant may be required to install a structural control, such as an oil/water separator, sand filter, or approved equal to intercept and pre-treat stormwater prior to reaching the storm drain. The design, locations, and a schedule for maintaining the separator shall be submitted to the City Engineer for review and approval prior to issuance of building permits. The structural control shall be cleaned at least twice a year: once immediately prior to October 15 and once in January.

- The project applicant shall submit sizing design criteria to treat stormwater runoff and for hydromodification, at the time of improvement plan submittal and an updated detailed copy of calculations with subsequent submittals.
- Landscaping shall be designed to minimize irrigation and runoff, promote surface infiltration where appropriate and acceptable to the project soils engineer, and minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. All landscaping shall be subject to the review and approval of the City Engineer.
- Where feasible, landscaping shall be designed and operated to treat stormwater runoff. In areas that provide detention of water, plants that are tolerant of saturated soil conditions and prolonged exposure to water shall be specified. Soil shall be amended as required. (See planting guidelines by Alameda County Clean Water Program.)
- Minimal landscaping for erosion control purposes shall be required in the basin on lot 4.
- All paved outdoor storage areas shall be designed to minimize pollutant runoff. Bulk materials stored outdoors that may contribute to the pollution of stormwater runoff must be covered as deemed appropriate by the City Engineer/Chief Building Official and as required by the State Water Board.
- A regular program of inspecting vehicles for leaks and spills, and of sweeping/ vacuuming, litter control, and spill cleanup shall be implemented. Such program shall be submitted to the Director of Community Development for review and approval prior to issuance of building permits.
- The applicant shall raise the grades on Street A such that if there is an overland drainage release from the detention pond on lot 4 the storm water shall release toward Stoneridge Drive and shall not block Street A, unless otherwise approved by the City Engineer.

Stormwater Construction Requirements

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

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) are regulated under the NPDES stormwater program. Operators of regulated construction sites are required to develop and implement stormwater pollution prevention plans and file a construction general permit (NOI) from the State Water Resources Control Board to discharge stormwater.

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

74. The project applicant shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review by the City Engineer/Chief Building Official prior to issuance of building or engineering permits. A reviewed copy of the SWPPP shall be available at the project site until grading and building permits have been signed off by the inspection departments and all work is complete. A site specific SWPPP must be combined with proper and timely installation of the BMPs, thorough and frequent inspections, maintenance, and documentation. Failure to comply with the reviewed construction SWPPP may result in the issuance of correction notices, citations or stop work orders.
75. The amendments to the SWPPP and all the inspection forms shall be completed and available at the site for inspection by the city, county or state staff.
76. The project applicant is responsible for implementing the following Best Management Practices (BMPs). These, as well as any other applicable measure, shall be included in the SWPPP and implemented as approved by the City:
- The project applicant shall include erosion control/stormwater quality measures on the final grading plan which shall specifically address measures to prevent soil, dirt, and debris from entering the storm drain system. Such measures may include, but are not limited to, hydroseeding, hay bales, sandbags, and siltation fences and are subject to the review and approval of the City Engineer/Chief Building Official. If no grading plan is required, necessary erosion control/stormwater quality measures shall be shown on the site plan submitted for an on-site permit, subject to the review and approval of the Building and Safety Division. The project applicant is responsible for ensuring that the contractor is aware of and implements such measures.
 - 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 in accordance with the construction general permit in effect at the time of revegetation and stabilization. No grading shall occur between October 15 and April 15 unless approved erosion control/stormwater quality measures are in place, subject to the approval of City Engineer/Chief Building Official. Such measures shall be maintained and a cash bond shall be required from the applicant until such time as sufficient vegetation is established.
 - Gather all sorted construction debris on a regular basis and place it 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 stormwater runoff pollution.
 - 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.

- 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.
- 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 through being windblown or in the event of a material spill.
- Never clean machinery, equipment, tools, brushes, or rinse containers into a street, gutter, or storm drain.
- Ensure that concrete/gunite supply trucks or concrete/plaster operations do not discharge wash water into street, gutters, or storm drains.
- Equipment fueling area: Use off-site fueling stations as much as possible. Where on-site fueling occurs, use designated areas 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, and check vehicles and equipment regularly for leaking oils and fuels. Dispose rags and absorbent materials promptly and properly.
- Concrete wash area: Locate wash out areas away from the storm drains and open ditches, construct a temporary pit large enough to store the liquid and solid waste, clean pit by allowing concrete to set, breaking up the concrete, then recycling or disposing of properly.
- Equipment and vehicle maintenance area: Use off-site repair shop as much as possible. For on-site maintenance, use designated areas 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 the project site. Train employees on spill cleanup procedures.

Stormwater Operation Requirements

77. Until the project is accepted, unless otherwise determined by the City Engineer or Chief Building Official, the applicant shall enter into a recorded Stormwater Treatment Measures Inspection and Maintenance Agreement for ongoing

maintenance and reporting of required stormwater measures. These measures may include, but are not limited to:

- A mechanism shall be created, such as a property owners' association, to be responsible for maintaining all private streets, private utilities and other privately owned common areas and facilities on the site including stormwater treatment measures. These maintenance responsibilities shall include implementing the maintenance plan, which is attached to the Stormwater Treatment Measures Inspection and Maintenance Agreement. This document shall be reviewed by the City Attorney's Office and recorded with the final map.
- On-site storm drain inlets clearly marked and maintained with the words "No Dumping – Drains to Bay."
- Proper maintenance of landscaping, with minimal pesticide and fertilizer use.
- Ensure wastewater from vehicle and equipment washing operations is not discharged to the storm drain system.
- Ensure that no person shall dispose of, nor permit the disposal, directly or indirectly, of vehicle fluids, hazardous materials or rinse water from cleaning tools, equipment or parts into storm drains.
- Clean 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.
- Regularly but not less than once a month, sweep 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.
- Vegetated swales with grasses shall be mowed and clippings removed on a regular basis.

TRAFFIC ENGINEERING

78. The joint trench shall include 3" conduit for fiber optic cable. Conduit and pull boxes shall follow the City of Pleasanton standard specifications for curve sweeps, pull box type and pull box spacing.

79. The applicant shall install 24 strand fiber optic cable from intersection of Trevor Parkway to El Charro Road. Fiber optic cable shall follow the City of Pleasanton Standard Specifications.

80. Prior to the acceptance of Stoneridge Drive between Trevor Parkway and El Charro Road as a public road, the applicant shall install a temporary 5' wide aggregate base (AB) pedestrian path north of Stoneridge Drive, unless permanent sidewalks have been constructed or bonded for as part of the development of PUDs 57, 68 and 80, or as otherwise determined by the City Engineer. This will include a temporary pathway along the frontage of the CLC where a future driveway entrance will be constructed by others.
81. The westbound left turn pocket from Stoneridge Drive into Lot 3 shall be increased from 175' to 200'.
82. All gates installed to limit access to Zone 7 path that runs along the Arroyo Mocho shall have open pedestrian access.
83. The applicant shall install an AC curb along frontage of Lot 5 where future driveway will be installed by CLC.
84. The southbound right turn from El Charro Road to Stoneridge Drive will be constructed to allow auto delivery trucks to complete the turn without entering the bike lane. Developer will submit truck turning template layout to the City Engineer for review and approval. Design may require adjustment of the property line on the south east corner of Lot 1.
85. Bus turnouts shall include bus shelter pad as shown in the City of Pleasanton Standard details (DWG no. 124).
86. Bus shelter pad adjacent to lot 4 shall be moved to the east to accommodate the walking path around the detention basin.

WATER SUPPLY

87. Prior to approval of the final map, it shall be demonstrated that sufficient water supply will be available for the project in accordance with Government Code section 66473.7.
88. The applicant acknowledges the rights and duties of the City set forth in the Development Agreement between the applicant and City related to the project, including those rights and duties relating to water supply.

DEED DISCLOSURES

89. All required disclosures, deed riders, and easements shall be subject to the review and approval of the City Attorney's Office prior to the recordation of a Final Map for the Staples Ranch Site.

90. Conveyance documents for all parcels on the senior continuing care site (lots 5, 6, and 7) shall include the required disclosures, deed riders, and easements listed below. Property owners of lots 5-7 on the Staples Ranch Site shall provide all of its future tenants and any purchaser of lots 5-7 with copies of the required disclosures, deed riders, and easements listed below. The property owner of the senior continuing care community site(s) on lots 5-7 will:

- a. Disclose to all potential residents the proximity of the I-580 freeway and that high efficiency particulate air (HEPA) filters are required to be installed in all living units constructed within 247' of southern edge of the existing closest travel lane of the I-580 freeway and maintained by the senior continuing care community management. The HEPA air filters shall be maintained by the senior continuing care community management in a good condition, with the filters regularly changed by the management company as recommended by the HEPA filter manufacturing company. The "southern edge of the closest existing travel lane" shall be the closest southern edge located immediately north of the project site at the time the project PUD was approved by the City Council.
- b. Establish procedures, including a phone number, so that the on-site manager will be the initial contact to handle all HEPA filter complaints from residents.
- c. Disclose that the proposed landscape buffer by Hendrick Automotive Group (PUD-57) may not be installed for several years.

91. Conveyance documents for all parcels on the senior continuing care site (lots 5, 6, and 7) shall include the required disclosures, deed riders, and easements listed below. Property owners of lots 5-7, shall provide all of its future tenants and any purchaser of lots 5-7 with copies of the required disclosures, deed riders, and easements listed below. The property owner of the senior continuing care community site(s), lots 5-7 will:

- a. Disclose to all potential residents the proximity of the Livermore Airport and the potential for noise and other nuisance from aircraft operations.
- b. Establish procedures, including a phone number, so that the on-site manager will be the initial contact to handle all airport noise complaints from residents.
- c. Include a deed rider on the conveyance of any property that states:

Grantee hereunder acknowledges and agrees that the subject property is located in the vicinity of an active and operating general aviation airport, outside the City of Livermore's designated Airport Protection Area and 65 CNEL impact area. Grantee accepts possible and normal consequences including noise, light and vibration arising out of the proper operation of aircraft for current and future operations consistent with the 1975 Livermore Airport Master Plan and Grantee hereby acknowledges and agrees that no

claim of nuisance shall lie based on the foregoing. Grantee shall not be deprived of any right it might have against any individual or private operator for negligent or unlawful operation of aircraft. Grantee hereby covenants to include this same paragraph, in its entirety, in any subsequent deed by Grantee of all or any portion of the subject property. Grantee further covenants to include this same paragraph within any lease for all or any portion of the subject property.

92. Conveyance documents for lots 1-7 on the Staples Ranch Site shall include the required disclosures listed below. Property owners of lots 1-7 shall provide all of its future tenants and any purchaser of any property of lots 1-7 with copies of the required disclosures listed below.

The property owner will disclose to all potential tenants and property owners conditions that may not be readily apparent which may occur on or near the Staples Ranch Site:

- a. The presence of and typical activities and physical characteristics associated with the auto mall planned on the Staples Ranch Site including vehicle servicing, washing, and vacuuming, bright lighting, illuminated freestanding freeway sign, noise, early and late hours of operation, and large truck deliveries.
- b. The presence of and typical activities and characteristics associated with park uses on the Staples Ranch Site including bright lights, noise, large buildings, large delivery trucks, early and late use hours of park use.
- c. The presence of typical activities and characteristics associated with retail and/or office uses on the Staples Ranch site including bright lighting, noise, early and later hours of operation, and large delivery trucks.
- d. The future extension El Charro Road to Stanley Boulevard, as shown in the General Plan.
- e. The future extension of Stoneridge Drive to El Charro Road, as shown in the General Plan and in the Stoneridge Drive Specific Plan Amendment/Staples Ranch.
- f. The anticipated I-580 freeway widening by Caltrans.
- g. The presence of the PG&E gas line and Zone 7 water line.

93. Property owners of lots 1-7 shall include deed riders/disclosures about the Livermore Municipal Airport consistent with Business and Professions Code Section 11010 and Civil Code Sections 1102.6, 1103.4, and 1353.

94. Conveyance documents for lots 1-7 shall include the required disclosures, deed riders, and easements listed below. Property owners of lots 1-7 on the Staples Ranch Site shall provide all of its future tenants and any purchaser of lots 1-7 with copies of the required disclosures, deed riders, and easements listed below.

a. All property owners shall disclose the following about the Pre-Development and Cooperation Agreement:

- Applicant acknowledges that the City has provided to applicant a copy, and the applicant is aware of the existence, of that certain Pre-Development and Cooperation Agreement by and among the City of Livermore, the County of Alameda, the Surplus Property Authority of the County of Alameda, the City of Pleasanton, and CalMat Co., d/b/a Vulcan Materials Company, Western Division ("Vulcan"), dated as of September 18, 2007 (the "Cooperation Agreement"), and further acknowledges that applicant has reviewed and understands the provisions of the Cooperation Agreement, including but not limited to the provisions thereof that prohibit the City's issuance of certain permits for applicant's project unless and until the City complies with its obligations under the Cooperation Agreement, and allow Vulcan to join applicant as a real party in interest in any action to enforce the City's obligations under the Cooperation Agreement. Applicant consents to the recordation of the Memorandum of Agreement on title to Applicant's property and shall execute and deliver to City all documents required to evidence the consent to recordation.
- This property is located in the vicinity of operating quarries on land designated by the County of Alameda for sand and gravel quarry and related operations, including asphalt and concrete plants, landfill, recycling of construction materials, reclamation and other similar uses (the "Quarry Lands"). The Quarry Lands have been designated by the State of California as containing aggregate and mineral resources of regional significance. Operations and reclamation activities at the Quarry Lands are projected to continue until at least 2030. Quarry operations may result in airborne particulate matter, bright lights, noise and vibration, unattractive visual appearance, and heavy truck traffic. El Charro Road serves as the main access route to the Quarry Lands and is subject to a high volume of heavy truck traffic related to the Quarry Lands.

b. All property owners shall attach the following rider to each deed for any property within the Staples Ranch Site:

Grantee hereunder acknowledges and agrees that the subject property is located in the vicinity of active and operating quarries and processing facilities. Grantee also acknowledges that quarry operations may result in airborne particulate matter, bright lights, noise and vibration, unattractive visual appearance, and heavy truck traffic on El Charro Road and adjacent streets and roadways within or outside the quarries. Grantee accepts possible inconvenience of discomfort from any of the foregoing and Grantee hereby acknowledges and agrees that no claim of nuisance

shall lie based on any of the foregoing. Grantee hereby covenants to include this same paragraph, in its entirety, in any subsequent deed by Grantee of all or any portion of the subject property. Grantee further covenants to include this same paragraph within any lease for all or any portion of the subject property.

95. Staples Ranch Site property owners of lots 1-4, shall either record the deed rider below or Livermore's standard Avigation Easement a copy of which is attached as Exhibit G of the Cost-Sharing Agreement.

Grantee hereunder acknowledges and agrees that the subject property is located in the vicinity of an active and operating general aviation airport, outside the City of Livermore's designated Airport Protection Area and 65 CNEL impact area. Grantee accepts possible and normal consequences including noise, light and vibration arising out of the proper operation of aircraft for current and future operations consistent with the 1975 Livermore Airport Master Plan and Grantee hereby acknowledges and agrees that no claim of nuisance shall lie based on the foregoing. Grantee shall not be deprived of any right it might have against any individual or private operator for negligent or unlawful operation of aircraft. Grantee hereby covenants to include this same paragraph, in its entirety, in any subsequent deed by Grantee of all or any portion of the subject property. Grantee further covenants to include this same paragraph within any lease for all or any portion of the subject property.

< End >

EXHIBIT C**WATER SUPPLY ASSESSMENT UPDATE
STONERIDGE DRIVE SPECIFIC PLAN AMENDMENT/STAPLES RANCH
OCTOBER 13, 2010**

As the public water supplier that will supply water to proposed projects in the area, the City is required to prepare Water Supply Assessments (WSAs), under the requirements of Senate Bills 610 and 221, codified in Government Code Sections 65867.5, 66455.3, and 66473.7 if a proposed project meets certain criteria. There are three primary areas to be addressed in a WSA: (1) all relevant water supply entitlements, water rights, and water contracts; (2) a description of the available water supply entitlements, water rights, and water contracts; (3) and analysis of the demand placed on those supplies, by the project, and relevant existing and planned future uses in the area.

A Water Supply Assessment for the Stoneridge Drive Specific Plan Amendment/Staples Ranch project was prepared and adopted by the Pleasanton City Council on December 18, 2007. The WSA was then further updated in the Draft Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report (EIR) dated April 2008, and then further updated in the Final Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report Supplement (SEIR), dated May 2010. Both the EIR and SEIR were certified by the City Council on August 24, 2010. Mitigation measure WS-1.1 of the EIR Mitigation Monitoring and Reporting Plan for the Stoneridge Drive Specific Plan Amendment/Staples Ranch EIR, approved by the City Council on August 24, 2010, requires the WSA to be updated again prior to Tentative Map approval for the Staples Ranch project, and requires the Tentative Map to include a condition requiring sufficient water supply be available for the project, consistent with State law. The required water supply condition has been added as a recommended Tentative Map condition of approval, and this report further updates the WSA.

Section I of this report includes an update regarding water supply. Section II includes attachments to this report. The attachments in section II are as follows: 1) Attachment 1: the Water Supply Assessment for the Stoneridge Drive Specific Plan Amendment/Staples Ranch project adopted by the Pleasanton City Council on December 18, 2007; 2) Attachment 2: the water supply update in the Final Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report (EIR) dated February 2009; and 3) Attachment 3: the Final Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report Supplement (SEIR), dated May 2010; 4) Attachment 4: Zone 7's 2010 Annual Review of Sustainable Water Supply; and 5) Attachment 5: an updated table (Table 1) showing Pleasanton's historical water deliveries from Zone 7. Except as updated in Section I and Attachments 2, 3, and 5, the Water Supply Assessment approved by the City Council in 2007 is still valid. This report and its attachments constitute the water supply verification required by mitigation measure WS-1.1 of the Stoneridge Drive Specific Plan Amendment/Staples Ranch Mitigation Monitoring and Reporting Plan.

I. WATER SUPPLY ASSESSMENT UPDATE—SEPTEMBER 2010

The Draft Stoneridge Drive Specific Plan Amendment/Staples Ranch EIR (dated April 2008) concluded that there would be water available for the Staples Ranch project in accordance with SB 610 Water Supply Assessment (WSA) approved by the City council in December 2007. The WSA relied upon current information provided by Zone 7 stating that Zone 7 had 87,500 acre-feet annually (AFA) of long-term sustainable water supply available to serve the buildout of the communities within Zone 7's service area. The 87,500 AFA had several components, namely, the State Water Project (SWP) (60,900 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), groundwater safe yields (13,400 AFA), and recycled water (1,900 AFA). Not including groundwater safe yields (13,400 AFA) and recycled water supply (1,900 AFA), the sustainable water supply was 72,200 AFA in 2007. The WSA also identified a number of other sources of water available for reliability purposes, e.g., a total of 65,000 AF from the Semitropic Water Storage District and 10,000 AFA from the Cawelo Water Storage District. Zone 7 anticipated pump back of approximately 8,700 AFA from Semitropic Water Storage District and approximately 10,000 AFA from Cawelo Water Storage District during drought years.

2008 Water Supply

The Stoneridge Drive Specific Plan Amendment/Staples Ranch Final EIR (dated February 2009) concluded that the Zone 7's 2008 Annual Review presented two main points that may have important bearing on the Staples Ranch project: First, recent court rulings related to endangered species in the Delta have mandated reduced pumping of water from the Delta, and second, climate change effects (e.g., earlier snowmelt in the Sierras), may impact deliveries. As a result, SWP future average delivery to Zone 7 had been reduced from 60,900 AFA to 53,200 AFA and the total sustainable water supply reduced from 87,500 AFA to 81,200 AFA (a reduction to 64,500 AFA if groundwater safe yields and recycled water are not included). Second, the 2008 Annual Review stated that based on sustainable supplies of 81,200 AFA, Zone 7 could meet customer demands through 2015. Additional information regarding the 2008 Annual Review is in Attachment 2.

2009 Water Supply

The 2009 Annual Review conclusions were similar to those of 2008. SWP future average delivery to Zone 7 was the same, 53,200 AFA (although the actual SWP delivery to Zone 7 in 2008 was 52,500 AF). Not including groundwater safe yields and recycled water, the total sustainable water supply was 64,500 AFA in 2008 and 62,500 AFA in 2009 (notably, the study in 2009 included a new reduction of 2,000 AFA for storage and operational losses).

The Zone 7 2009 Annual Review indicated that Zone 7's long term sustainable water supply was then 62,500 AFA (not including groundwater safe yields and recycled water). The 62,500 AFA

presented in the 2009 Annual Review had several supply components, namely, SWP (53,200 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), minus storage and operational losses (2,000 AFA). Based on the 62,500 AFA, this Annual Review reported that if Zone 7 demands continued to rise and if there were no improvements in the current restrictions in Delta pumping, Zone 7 projected a sufficient sustainable supply of water through 2014. More information regarding the 2009 Annual Review is in Attachment 3.

2010 Water Supply Update

The 2010 Annual Review conclusions are similar to those of 2009. SWP future average delivery to Zone 7 was lower in 2010, 48,400 AFA, whereas SWP future average delivery was estimated at 53,200 AFA in 2009. Not including groundwater safe yields and recycled water, the total sustainable water supply was 62,500 AFA in 2009 and 55,050 AFA in 2010 (notably, the study in 2009 included a new reduction of 2,000 AFA for storage and operational losses, and the 2010 study estimates a 2,900 AFA reduction for storage and operational losses).

The Zone 7 2010 Annual Review indicates that Zone 7's long term sustainable water supply is now 55,050 AFA (not including groundwater safe yields and recycled water). The 55,050 AFA presented in the 2010 Annual Review has several supply components, namely, SWP (48,400 AFA), Arroyo Del Valle Runoff (7,300 AFA), Byron Bethany Irrigation District (2,000 AFA), Yuba Accord (250 AFA) minus storage and operational losses (2,900 AFA). Based on the 55,050 AFA, this Annual Review observes that if Zone 7 demands continue to rise and if there are no improvements in the current restrictions in Delta pumping, Zone 7 projects a sufficient sustainable supply of water through 2014.

Although the SWP amount was reduced from 2007 to 2010, recycled water supplies increased from 1,900 AFA in 2007 to 3,600 AFA in 2009 and are expected to continue to increase over time. Furthermore, the WSA indicates that in 2030 the Chain of Lakes will provide an additional 3,000 AFA of sustainable water, but that amount was not reflected as part of the WSA's 87,500 AFA nor in the Zone 7 2010 Annual Review. Additionally, although the WSA table of sustainable water supply identified only 2,000 AFA from the Byron Bethany Irrigation District, the text of the Zone 7's 2010 Annual Review, provides that Zone 7 contractually has, potentially, the right to supply up to an additional 3,000 AFA (in addition to the 2,000 AFA previously mentioned) from Byron Bethany. Finally, although the WSA table of sustainable water does not identify any out of basin groundwater banking supplies, the WSA text provides 8,700 AFA from Semitropic Water Storage and 10,000 AFA from the Cawelo Water Storage District, respectively, to Zone 7 during drought years for water reliability purposes.

The WSA concludes that current estimated 2030 "Buildout Demand" for treated and untreated Zone 7 water is 69,370 AFA, and that the 2007 Zone 7 long-term sustainable water supply was 87,500 AFA. Although Zone 7 is taking an understandably conservative approach in currently identifying only 55,050 AFA of sustainable water and, based on the information in the WSA, supported by the 2010 Zone 7 Annual Review, it is reasonable to conclude that in any given year,

Zone 7 will have at least 55,050 AFA available (from the SWP, Arroyo del Valle Runoff, Byron Bethany, and Yuba Accord) and, as noted above, additional supplies (from recycled water use, the Chain of Lakes, Byron Bethany, semitropic water storage, and the Cawelo Water Storage District) are reasonably likely to have available for its customers, including the proposed project. Furthermore, the WSA determined that consumer conservation could further alleviate demand pressure on Zone 7 supplies. Zone 7's previous annual reviews estimated demand would increase by approximately 8% between 2009 and 2013; however, in the 2010 Annual Review the projected increase in demand has been reduced to a 3.7% increase, in part due to conservation efforts and the economic slowdown.

Although it is expected that this project would be built out by 2014 (the year through which Zone 7 projects a sufficient sustainable supply of water), the Zone 7 2010 Annual Review raises concerns about providing sustainable water to customers thereafter. It should be noted, however, that the 69,370 AFA reflects adequate water to serve the 2030 buildout of the General Plans of the Tri-Valley communities; this project's projected water use—350 AFA—is a very small portion of that larger amount. Moreover, to the extent that the CLC project provides affordable senior housing, the City has a policy that such uses have a priority for water.

The City also notes that it has agreed to incorporate the use of recycled water at Staples Ranch (primarily for the project's landscaping) on the assumption that an agreement can be reached between the City and the Dublin San Ramon Services District (DSRSD) for that purpose. Conditions of approval related to the use of recycled water for landscaping/other at Staples Ranch were supported by the Pleasanton City Council in ordinances for PUD-57 (Hendrick Automotive Group); PUD-68 (Continuing Life Communities); and PUD-80 (Neighborhood Park), introduced on September 7, 2010 and scheduled for a second reading on September 21, 2010.

II. ATTACHMENTS

1. Water Supply Assessment for the Stoneridge Drive Specific Plan Amendment/Staples Ranch project adopted by the Pleasanton City Council on December 18, 2007.
2. Water Supply Update in the Final Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report (EIR) dated February 2009.
3. Water Supply Assessment in the Final Stoneridge Drive Specific Plan Amendment/Staples Ranch Environmental Impact Report Supplement (SEIR), dated May 2010.
4. Zone 7, Annual Review of Sustainable Water Supply for Zone 7 Water Agency. May 19, 2010.
5. Updated table (Table 1) showing Pleasanton's historical water deliveries from Zone 7.

RESOLUTION NO. 07-163

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PLEASANTON APPROVING A WATER SUPPLY ASSESSMENT FOR THE PROPOSED STONERIDGE DRIVE SPECIFIC PLAN AMENDMENT AND STAPLES RANCH PROJECT

WHEREAS, the City in 1989 adopted the Stoneridge Drive Specific Plan encompassing a 293-acre area which included the Staples Ranch Project site; and

WHEREAS, Under the California Environmental Quality Act (CEQA) and State Water Code (Section 10910(g)(1)), the City is required to prepare and approve a Water Supply Assessment (WSA) for the Stoneridge Drive Specific Plan Amendment and Staples Ranch Project's cumulative water supply demands; and

WHEREAS, WSA is an informational document required to be prepared under CEQA for assessing the adequacy of water supplies; and

WHEREAS, a WSA must be approved by the City Council as the governing body of the City's Public Works and Utilities Department, which is the public water supplier that would serve the Project; and

WHEREAS, the WSA prepared for the development concluded that the City has adequate water supplies through Zone 7 Water Agency and City's own groundwater supplies to meet the Project's water demands through 2030.

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

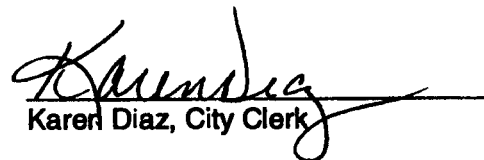
SECTION 1. Approves and adopts the Water Supply Assessment (WSA) for the proposed Stoneridge Drive Specific Plan Amendment and Staples Ranch Project, attached to this Resolution as Exhibit A, pursuant to the State of California Water Code.

SECTION 2. City Clerk shall certify to the passage of this resolution and enter it into the book of original resolutions.

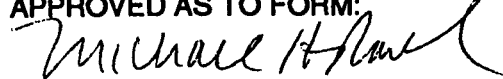
PASSED, APPROVED AND ADOPTED by the City Council of the City of Pleasanton at a regular meeting held on December 18, 2007.

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 18th day of December, 2007, by the following vote:

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


Karen Diaz, City Clerk

APPROVED AS TO FORM:


Michael H. Roush, City Attorney

City of Pleasanton
Final
Water Supply Assessment
for the proposed
Stoneridge Drive Specific
Plan Amendment
and Staples Ranch Project

December 2007

Prepared by:



PBS&J
1200 Second Street
Sacramento, CA 95814
916.325.4800

TABLE OF CONTENTS

Table of Contents	ii
List of Tables	iii
List of Figures	iii
Acronyms	iv
1.0 Introduction	1-1
2.0 Project Overview	2-2
2.1 Project Location	2-2
2.2 Project Description	2-2
2.3 Document Structure	2-2
3.0 City of Pleasanton Information and Staples Ranch Land Use Designation.....	3-1
3.1 City of Pleasanton Population and Community	3-1
3.2 Local Land Use Designations	3-1
3.2.1 Existing General Plan Land Use and Zoning Designations.....	3-1
4.0 Water Supply Planning.....	4-1
4.1 Water Supply Planning Under SB 610 and SB 221	4-1
4.1.1 "Is the Project Subject to CEQA?"	4-2
4.1.2 "Is It a Project Under SB 610?"	4-2
4.1.3 "Is There a Public Water System?"	4-3
4.1.4 "Is There a Current UWMP That Accounts for the Project Demand?"	4-3
4.1.5 "Is groundwater a component of the supplies for the project?"	4-4
4.1.6 "Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?".....	4-4
5.0 Water Agency Background	5-1
5.1 Zone 7 Water Service Area.....	5-1
5.1.1 Water Treatment and Capacity.....	5-3
5.2 City of Pleasanton Service Area and Water System	5-3
5.3 Water Supply Setting	5-3
5.3.1 Climate	5-3
5.3.2 Supply Sources	5-6
5.3.3 Zone 7 Water Supplies	5-6
5.3.4 Local Groundwater.....	5-6
5.4 Cawelo Water Storage District.....	5-15
5.5 Zone 7 Supply Reliability in Single and Multiple Dry Years	5-16
5.6 City of Pleasanton Water Supply	5-17
6.0 Demands.....	6-1
6.1 Regional Demands.....	6-1
6.1.1 Regional Historical and Projected Demands	6-1

6.1.2	Local – City of Pleasanton Demands.....	6-3
6.1.3	Staples Ranch Project Demands	6-5
7.0	Supply-Demand Comparison.....	7-1
7.1	Regional Water Supply Sufficiency.....	7-1
7.2	Local Water Supply Sufficiency – City of Pleasanton.....	7-3
7.2.1	Staples Ranch Project Water Supply Sufficiency	7-4
8.0	Conclusion	8-1

APPENDIX A

LIST OF TABLES

Table 5-1:	Average Annual Precipitation, Evapotranspiration and Irrigation Demands	5-6
Table 5-2:	Zone 7 Water Supply Sources.....	5-14
Table 5-3:	Zone 7 Single Driest Year Water Supply (AFA)	5-16
Table 5-4:	Zone 7 Multiple Dry Year Water Supply (AFA).....	5-17
Table 5-5:	Zone 7 Historical Deliveries to City of Pleasanton 2002-2006 (AFA).....	5-17
Table 5-6:	City of Pleasanton Normal/Average Year Supply Sources (AFA).....	5-18
Table 6-1:	Zone 7 Historical Deliveries to Retailers 2002-2006 (AFA).....	6-1
Table 6-2:	Livermore-Amador Valley Population Projections	6-2
Table 6-3:	Zone 7 Projected Water Demands (AFA).....	6-2
Table 6-4:	City of Pleasanton Treated Water Purchases 2002-2006 (AFA).....	6-3
Table 6-5:	City of Pleasanton Normal/Average Year Total Demands	6-4
Table 6-6:	Dry Year Supply and Demand with Voluntary 10% Conservation (AFA)	6-4
Table 6-7:	Dry Year Supply and Demand with Voluntary 25% Conservation (AFA)	6-5
Table 6-8:	Proposed Staples Ranch Project Water Demand	6-6
Table 7-1:	Zone 7 2007 Long-term Sustainable Water Supply.....	7-1
Table 7-2:	Zone 7 Single Driest Year Water Supply and Demand (AFA).....	7-2
Table 7-3:	Zone 7 Multiple Dry Years Water Supply and Demand (AFA)	7-2
Table 7-4:	Zone 7 Projected Average Year Supply and Demand (AFA).....	7-3
Table 7-5:	City of Pleasanton Normal/Average Year Supply and Demand Comparison (AFA).....	7-4

LIST OF FIGURES

Figure 1:	Regional and Project Location.....	2-4
Figure 2:	Proposed Staples Ranch Land Use Map	2-5
Figure 3:	Zone 7 Service Area and Local Retailers	5-2
Figure 4:	Regional Hydrology and Arroyo Systems.....	5-4
Figure 5:	City of Pleasanton Service Area	5-5
Figure 6:	Groundwater Basins	5-11

ACRONYMS

ACFCWCD	Alameda County Flood Control and Water Conservation District
AFA	acre-feet annually
BBID	Byron Bethany Irrigation District
BMO	basin management objective
CEQA	California Environmental Quality Act
CWSC	California Water Service Company
CWSD	Cawelo Water Storage District
DSRSD	Dublin-San Ramon Services District
EIR	Environmental Impact Report
ft ²	square feet
GMP	Groundwater Management Plan
gpm	gallons per minute
GPQ	Groundwater Pumping Quota
I-580	Interstate 580
IQ	Independent Quota
IRWMP	Integrated Regional Water Management Plan
LAVGB	Livermore-Amador Valley Groundwater Basin
M&I	Municipal and Industrial
Main Basin	Main Groundwater Basin
mgd	million gallons per day
MSR	Municipal Service Review
Plan	Basin Management Plan
proposed project	Stoneridge Drive Specific Plan Amendment and Staples Ranch project
SBA	South Bay Aqueduct
STWSD	Semitropic Water Storage District
SWP	State Water Project
UWMP	Urban Water Management Plan
Water Code	California Water Code
WSA	Water Supply Assessment
WSV	Water Supply Verification
WTP	water treatment plant

1.0 Introduction

This document, prepared for the City of Pleasanton (City or Pleasanton) regarding the proposed Stoneridge Drive Specific Plan Amendment and Staples Ranch project (proposed project), is a Water Supply Assessment (WSA) intended to satisfy the requirements of Senate Bill 610. The regional and local context for the project's water demand is included in this document, to provide City decision-makers a regional framework on which to base a decision about the sufficiency of water supplies for the proposed project.

The final WSA for this project shall be adopted during a special or regular meeting of the City of Pleasanton's City Council,¹ and its conclusions incorporated into other environmental documents as necessary, including, but not limited to, an Environmental Impact Report, which is currently being prepared. The water supply analysis contained herein is one of many items to be considered before approval of the proposed project.

1 Guidebook for Implementation of Senate Bill 610 and Senate Bill 221, California Department of Water Resources, October 2003, page 4.

2.0 Project Overview

2.1 Project Location

The Staples Ranch project site is approximately 124 acres, 122.5 acres of which are located in unincorporated Alameda County and 1.5 acres of which are located in Pleasanton, between the cities of Pleasanton and Livermore. The property is bounded by I-580 on the north, El Charro Road and the City of Livermore to the east, a number of sand and gravel quarries to the south, and the California-Somerset single-family residential development within the City of Pleasanton to the west. Figure 1 shows the regional location and more precise project location.

2.2 Project Description

A Stoneridge Drive Specific Plan was adopted for a 293-acre area in 1989 by the City. The Specific Plan, which includes the Staples Ranch site, proposed approximately 128 acres of residential uses (38.5 acres of low density housing and 89.9 acres of medium density housing), 78 acres of service commercial/light industrial uses, 30 acres of commercial uses, 26 acres of parks, 5 acres of schools, 23.4 acres of roads, and 2.5 acres of public/institutional uses. Since 1989, large portions of the Specific Plan area have developed; the undeveloped portion is essentially the Staples Ranch site.

The 124-acre Staples Ranch site consists of 122.5 acres that are outside the Pleasanton city limits but within its Sphere of Influence and Urban Growth Boundary; the remaining 1.5 acres of the project site lies within the city limits. The proposed project would involve annexation of the 122.5 acres of unincorporated Staples Ranch site to the City of Pleasanton. In addition to the Staples Ranch site, the lands to be annexed to the City would include up to an additional 36 acres of right-of-way along the Arroyo Mocho Channel, El Charro Road, and Interstate 580 (I-580) that are also within the City's Sphere of Influence and Urban Growth Boundary. This larger area is referred to as the "Project Area," to distinguish it from the Staples Ranch site. As part of the annexation, the Project Area would be rezoned.

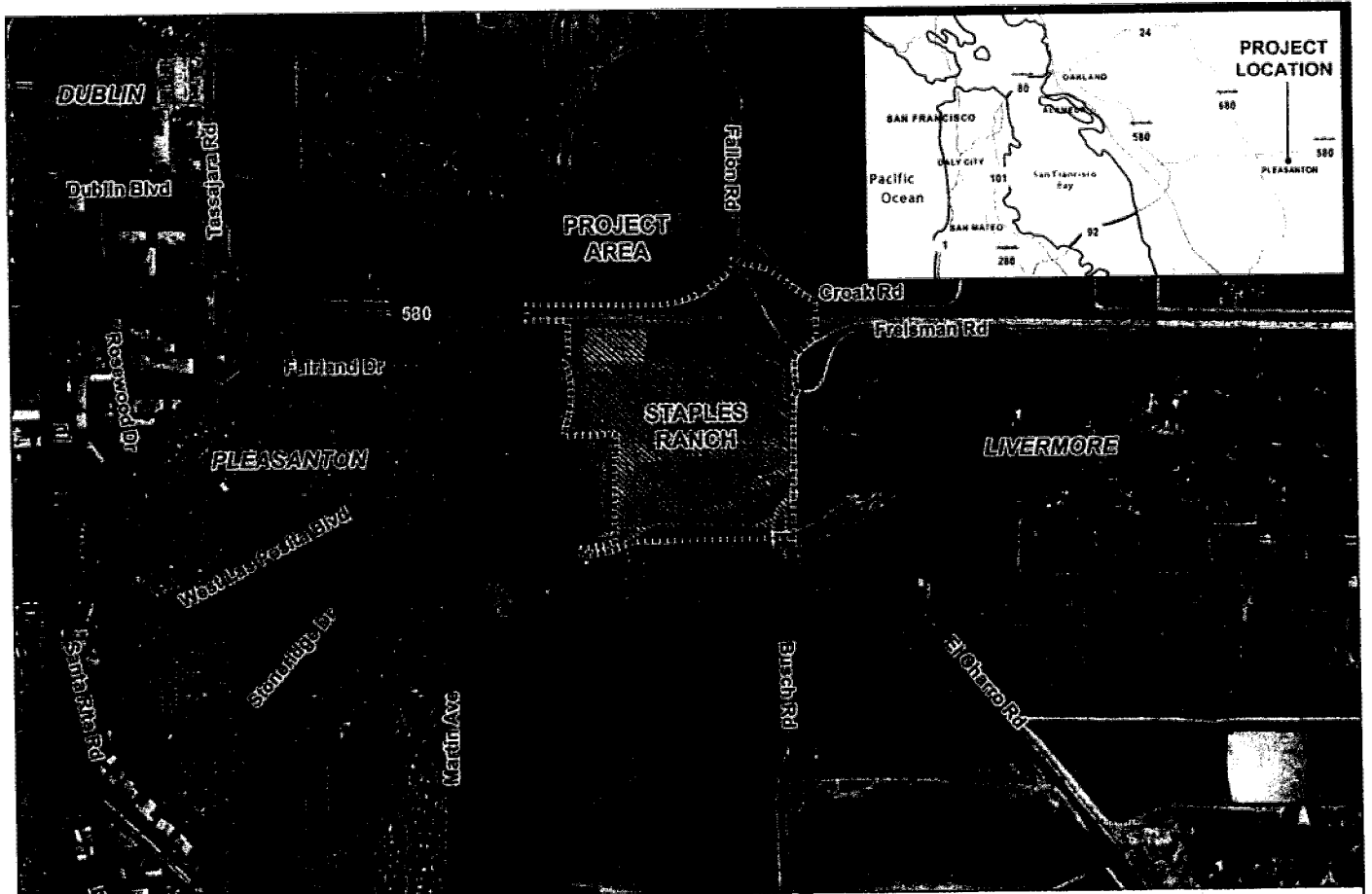
The proposed Staples Ranch project includes the following development components 1) a 37-acre auto mall, with buildings and 3,270 parking stalls; 2) a senior continuing care community on 45 acres with approximately 800 assisted living units plus supporting skilled nursing facilities and up to 207 beds in the health center; 3) future commercial development of retail (175,000 square feet) or office uses (280,000 square feet) on 16 acres; 4) future development of an approximately 17-acre community park, which could include an optional multi-rink ice-skating facility on up to 8 acres; 5) an extension of Stoneridge Drive to the senior continuing care community and community park; 6) preservation of Stoneridge Drive extension right-of-way; 7) a new two-lane bridge; and 8) a new access road to the auto mall and the retail uses from El Charro Road. In July 2007, City Council agreed to designate 5-acres of the 16 acres of commercial for a neighborhood park/stormwater detention basin. Figure 2 is the proposed Staples Ranch Land Use map.

2.3 Document Structure

This report is organized following a basic hierarchy to describe each issue: regional context (Zone 7 Water Agency service area and the underlying groundwater basin), local context (City of Pleasanton service area), and finally, project-level analysis for the proposed Staples Ranch project. The report organization is as follows:

- 1) Introduction, project overview and description and project location.
- 2) City of Pleasanton background information and land-use planning.
- 3) General information on Water Supply Planning under SB 610.

- 4) Water supply setting – including local climate, surface and groundwater hydrology, supplies, capacities and reliability.
- 5) Regional, City and project water demands – historical, projected and projected dry-year demands
- 6) Supply-demand comparisons on a regional, City and project-level basis.
- 7) Conclusions



Source: City of Pleasanton, 2007.



FIGURE 1
Regional and Project Location

041162.01

Staples Ranch WSA

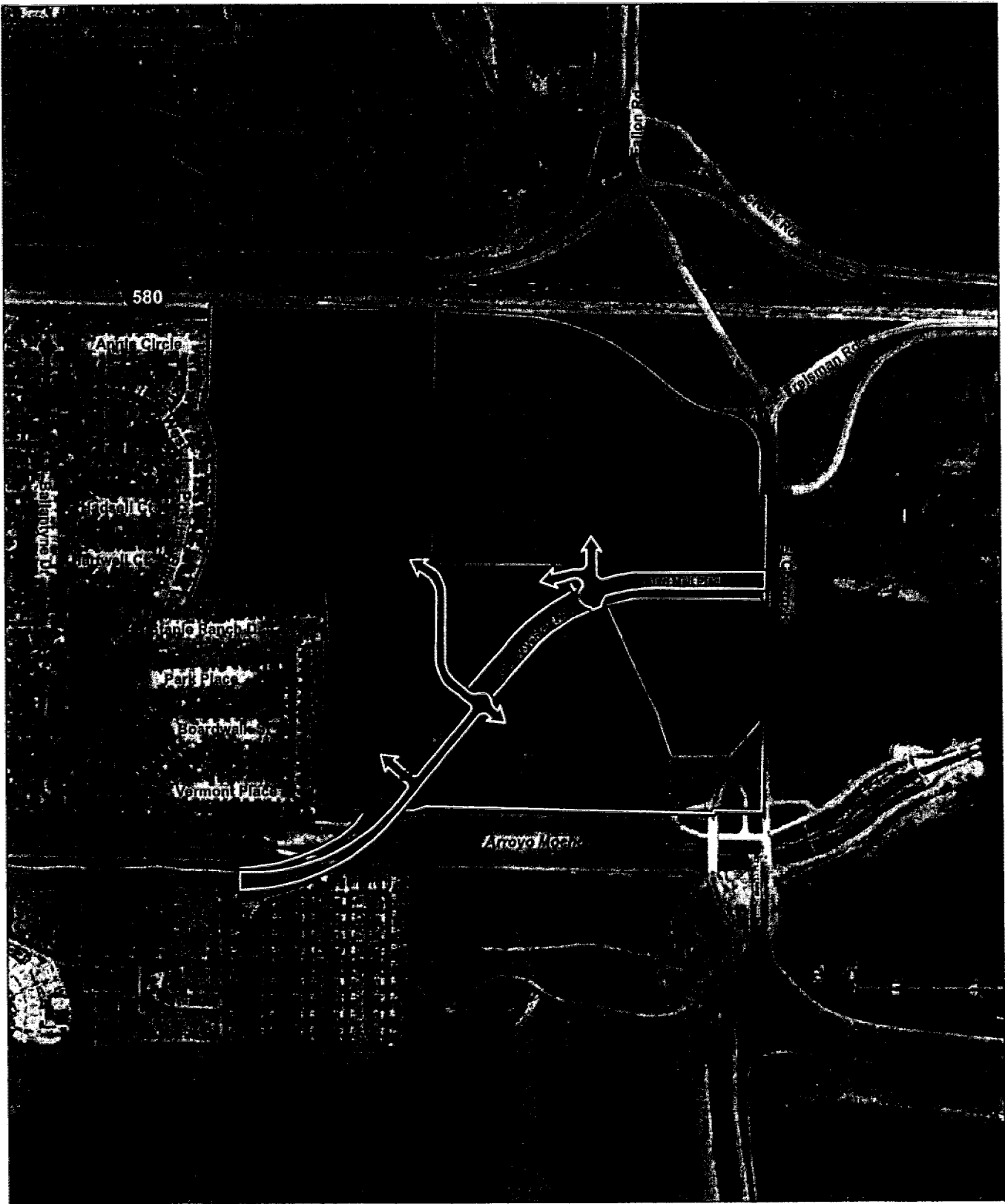


FIGURE 2
Proposed Staples Ranch Land Use Map

D41162.01

Source: PBS&J, 2007.

Staples Ranch WSA

3.0 City of Pleasanton Information and Staples Ranch Land Use Designation

This section describes background information, land use planning for Alameda County, and the City of Pleasanton.

3.1 City of Pleasanton Population and Community

As of January 1, 2001, the City of Pleasanton supported a population of 67,282 and provided 59,727 jobs within its corporate limits.² Pleasanton enjoys a diverse economy with a balanced mix of residential, retail, office, and light manufacturing uses.

3.2 Local Land Use Designations

3.2.1 Existing General Plan Land Use and Zoning Designations

The Staples Ranch site is designated by the Alameda County General Plan for Mixed Use and Business Park Uses, and by the City of Pleasanton for a variety of uses, including Medium Density Residential; High Density Residential; Parks and Recreation; and Retail/Highway/Service Commercial, Business and Professional Offices. The City's existing general plan land use designations for the Staples Ranch site would allow the proposed uses, so that a General Plan amendment would not be required under the proposed project.

Approximately 122.5 acres of the Staples Ranch site is currently zoned by Alameda County for agriculture, and is not yet zoned by the City of Pleasanton, and the 1.5 acres of the Staples Ranch site that are in the City of Pleasanton are zoned Planned Unit Development-Medium Density Residential.

2 2002 City of Pleasanton Urban Water Management Plan, page 2-2.

4.0 Water Supply Planning

California has different processes to plan for development or maintenance of water supplies on a regional level. Urban Water Management Plans (UWMPs), Groundwater Management Plans (GMPs), Integrated Regional Water Management Plans (IRWMPs), Municipal Service Reviews (MSRs) and water resources components of General Plans all integrate some degree of regional planning of water supply and demand.

To complement these large-scale planning processes, the Governor signed into law Senate Bills 610 and 221 in 2002, which emphasize the incorporation of water supply and demand analysis at the earliest possible stage in the planning process for projects undergoing more specific or detailed planning level analysis. These legislations primarily apply to the planning of water supplies and sources for individual subdivision projects, and are completed at the time the project is being proposed and permitted. SB 610 amended portions of the Water Code, including Section 10631, which contains the Urban Water Management Planning Act, and added Sections 10910, 10911, 10912, 10913, and 10915, which describe the required elements of a WSA. SB 221, which requires completion of a Water Supply Verification (WSV), amended Section 65867.5 and added Sections 66455.3 and 66473.7 to the Government Code.³

4.1 Water Supply Planning Under SB 610 and SB 221

As the public water system that will supply water to proposed projects in the area, the City is required to prepare WSAs and WSVs, under the requirements of Senate Bills 610 and 221, codified in Government Code Sections 65867.5, 66455.3 and 66473.7 if a proposed project meets certain criteria. There are three primary areas to be addressed in a WSA: (1) all relevant water supply entitlements, water rights, and water contracts; (2) a description of the available water supplies and the infrastructure, either existing or proposed, to deliver the water; and (3) an analysis of the demand placed on those supplies, by the project, and relevant existing and planned future uses in the area. In addition to these items, WSVs incorporate more detailed confirmation that the appropriate infrastructure planning and funding are in place to fully commit water supplies to a project. The proposed project does not include a "subdivision" as defined by Government Code Section 66473.7(a)(1); therefore, a WSV is not required for the proposed project.⁴

Senate Bill 610 is applicable to projects subject to the California Environmental Quality Act (CEQA) or considered a "project" under Water Code Section 10912(a) or (b), builds on the information that is typically contained in a UWMP. The amendments to Water Code Section 10631 were designed to make WSAs and UWMPs consistent. A key difference between the WSAs and UWMPs is that UWMPs are required to be revised every five years, in years ending with either zero or five for those

³ Department of Water Resources, *Guidebook for Implementation of SB 610 and SB 221 of 2001, 2003.*

⁴ Government Code Section 66473.7(a)(2) states:

'Sufficient water supply' means the total water supplies variable during a normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the propose subdivision, in addition to existing and planned future uses, including, but not limited to agricultural and industrial uses. In determining 'sufficient water supply', all of the following factors shall be considered:

- (a) The availability of water supplies over a historical record of at least 20 years.*
- (b) The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.*
- (c) The reduction in water supply allocated to specific water use sector pursuant to a resolution or ordinance adopted or a contract entered into, by the public water system, a long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.*
- (d) The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including program identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).*

water systems that meet the specific connection criteria, while WSAs are required as part of the environmental review process for each individually qualifying project. As a result, the 20-year planning horizons for each qualifying project may cover slightly different planning periods than other WSAs or the current UWMP. Additionally, not all water providers who must prepare a WSA for a qualifying project under SB 610 are required to prepare an UWMP as defined in the Urban Water Management Planning Act.

Especially pertinent to this WSA for the proposed project, and all projects to be served by the City of Pleasanton, are the provisions under SB 610 that involve documentation of supply if groundwater is to be used as a source. A detailed discussion of the groundwater basin and groundwater production can be found in sections 5.3.4.1 and 5.3.4.2. Briefly, the City of Pleasanton owns and operates three groundwater production wells. The total pumping capacity of these wells is approximately 7,000 gallons per minute, or an average daily capacity of 10 million gallons per day (mgd). The City limits production of its wells through contract with Zone 7 for groundwater management purposes, to an annual withdrawal of 3,500 acre-feet annually (AFA). However, these three City wells are capable of supplying up to approximately 11,000 acre-feet annually if needed. The City uses groundwater to supply approximately 20% of its total City water demand, and purchases the remaining 80% of City water demand as treated water supplies from Zone 7 of the Alameda County Flood Control and Water Conservation District, hereinafter Zone 7. Zone 7 also owns and operates seven wells located within three well fields, also located in Pleasanton. The Zone 7 groundwater wells have a peak pumping capacity of 32 mgd.

The SB 610 WSA process involves answering the following questions:

- Is the project subject to CEQA?
- Is it a project under SB 610?
- Is there a public water system?
- Is there a current UWMP that accounts for the project demand?
- Is groundwater a component of the supplies for the project?
- Are there sufficient supplies available to serve the project over the next 20 years?

4.1.1 "Is the Project Subject to CEQA?"

The first step in the SB 610 process is determining whether the project is subject to CEQA. SB 610 amended Public Resources Code Section 21151.9 to read: "Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division [i.e., CEQA], it shall comply with part 2.10 (commencing with Section 10910) of Division 6 of the Water Code." The Project is currently under environmental review pursuant to the requirements of CEQA; therefore, the information contained in this assessment will be used to support the Environmental Impact Report (EIR) for the project-level analysis.

4.1.2 "Is It a Project Under SB 610?"

The second step in the SB 610 process is to determine if a project meets the definition of a "Project" under Water Code Section 10912 (a). Under this section, a "Project" is defined as meeting any of the following criteria:

A proposed residential development of more than 500 dwelling units;

- 8) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (ft²) of floor space;
- 9) A commercial building employing more than 1,000 persons or having more than 250,000 ft² of floor space;
- 10) A hotel or motel with more than 500 rooms;
- 11) A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 ft² of floor area;
- 12) A mixed-use project that includes one or more of these elements; or
- 13) A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a "Project" also includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of ten percent or more in the number of service connections for the public water system. Because the proposed project is a mixed-use development that includes residential dwelling units and commercial uses, it meets the requirements as a "Project" under the Water Code.

4.1.3 "Is There a Public Water System?"

The third step in the SB 610 process is determining if there is a "public water system" to serve the project. Section 10912 (c) of the California Water Code (Water Code) states: "[A] public water system means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections." The City of Pleasanton is identified as the public water supplier for the project site. The City serves approximately 22,000⁵ water service connections through a local network of treated water turnouts (wholesale metering locations off of the Zone 7 water system), groundwater wells, storage, booster pumping stations and conveyance systems and distribution infrastructure.

4.1.4 "Is There a Current UWMP That Accounts for the Project Demand?"

Step four in the SB 610 process involves determining if there is a current UWMP that considers the projected water demand for the project area. The Water Code requires that all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet annually, must prepare an UWMP, and this plan must be updated at least every five years on or before December 31, in years ending in five and zero. Water Code Section 10910(c)(2) states, "If the projected water demand associated with the Project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d),(e),(f), and (g) [i.e., the WSA]." The City's most recent UWMP was adopted in August, 2002. Water demand and growth since 2002 is consistent with the adopted 2002 UWMP, and the City continues to implement the recommended water conservation programs outlined in that UWMP. Presently, the City is working on an updated UWMP for adoption and release in 2008.

5 Personal Communication October 24, 2007. City of Pleasanton Department of Utilities.

The UWMP adopted in 2002 includes potential water demands that would be generated by land uses designated by the 1989 Stoneridge Drive Specific Plan, including 100 acres of commercial development and a 17.2 acre community park on the Staples Ranch project site. In 1989 when the Stoneridge Drive Specific Plan was adopted no land use and water supply planning legislation existed in California. In fact, the first legislation of this type was passed in the early 1990's. Potential water demands were estimated for the land uses of the Stoneridge Drive Specific Plan; however, a 20 year gap exists between the adopted Specific Plan in project implementation. Moreover, within this 20 year period, land use and water supply planning has evolved and water demand factors associated with specific land uses or facilities has been refined. With that understanding, this WSA, per the requirements of SB 610 calculates the water demands of the current proposed project by assigning water demands factors associated with these proposed uses.

4.1.5 "Is groundwater a component of the supplies for the project?"

The requirements of Water Code Section 10910(f), parts 1 through 5, apply if groundwater is a source of supply for a Project. Both Pleasanton and Zone 7 extract groundwater to supplement other water supply sources. Zone 7 has a GMP that establishes management plan elements, GMP goals, basin management objectives (BMOs), and stakeholder involvement. As a water retailer, Pleasanton along with, the California Water Service Company (CWSC) of Livermore, and the Dublin-San Ramon Services District have agreed to groundwater extraction limits known as a Groundwater Pumping Quota (GPQ). These limits help to maintain groundwater basin storage. The total annual GPQ for these three retail water agencies is approximately 6,600 acre feet. The safe yield of the Tri-Valley's groundwater basin is approximately 13,400 acre-feet per year. There are additional groundwater uses from the agricultural and mining industries located in the Valley. However, the annual uses from these industries remain less than the "net" safe yield of the local groundwater basin.

4.1.6 "Are There Sufficient⁶ Supplies to Serve the Project Over the Next Twenty Years?"

The final step in the SB 610 process is to illustrate the available water supplies, including the availability of these supplies in all water-year conditions (normal, single dry year and multiple dry years) over a 20-year planning horizon, and an assessment of how these supplies relate to project-specific and cumulative demands over that same 20-year period. In this case, the period is projected to 2030. The regional and local supply and demand comparisons are included in Section 6.

6

Government Code Section 66473.7(a)(2) states:

'Sufficient water supply' means the total water supplies variable during a normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the propose subdivision, in addition to existing and planned future uses, including, but not limited to agricultural and industrial uses. In determining 'sufficient water supply', all of the following factors shall be considered:

- (e) The availability of water supplies over a historical record of at least 20 years.*
- (f) The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.*
- (g) The reduction in water supply allocated to specific water use sector pursuant to a resolution or ordinance adopted or a contract entered into, by the public water system, a long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.*
- (h) The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including program identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).*

5.0 Water Agency Background

This section presents a discussion of Zone 7 Water Agency's service area in the Tri-Valley region. Also included is a discussion of the City of Pleasanton's service area.

The Alameda County Flood Control and Water Conservation District (ACFCWCD) was established by the State Legislature in 1949 to solve problems of flooding, drainage, channel erosion, and water supply and conservation in Alameda County. Zone 7, one of the 10 active zones of the ACFCWCD, was established by popular vote of the residents of Alameda County in 1957 and encompasses the area comprising the southeastern portion of Alameda County. Zone 7's principal activities include water supply, water resources management, flood control, and groundwater basin management.

Zone 7 regulates withdrawal and recharge of the underlying groundwater basin and functions as the water wholesale provider to the Tri-Valley area. Zone 7 distributes primarily potable (treated) water supplies to the cities of Pleasanton and Livermore, and to the Dublin-San Ramon Services District (DSRSD), CWSC of Livermore, and some unincorporated areas of the county and agricultural areas. Treated water deliveries are based on individual water delivery schedules from these four water retail agencies, submitted on an annual basis, but also forecasted over the future five-year period. Zone 7 also serves untreated water to the agricultural industries here in the Livermore-Amador Valley.

5.1 Zone 7 Water Service Area

The service area managed by Zone 7 (see Figure 3) encompasses 425 square miles of the Livermore-Amador Valley, Sunol Valley, and portions of the Diablo Range. The boundary extends to the eastern portion of Alameda County. Located about 40 miles south-east of San Francisco, where I-680 and I-580 intersect, the service area remains in a state of rapid growth. Currently, Zone 7 serves 190,000 residents spread through the cities of Pleasanton, Livermore, Dublin, portions of San Ramon and residents in the unincorporated areas of Alameda County.

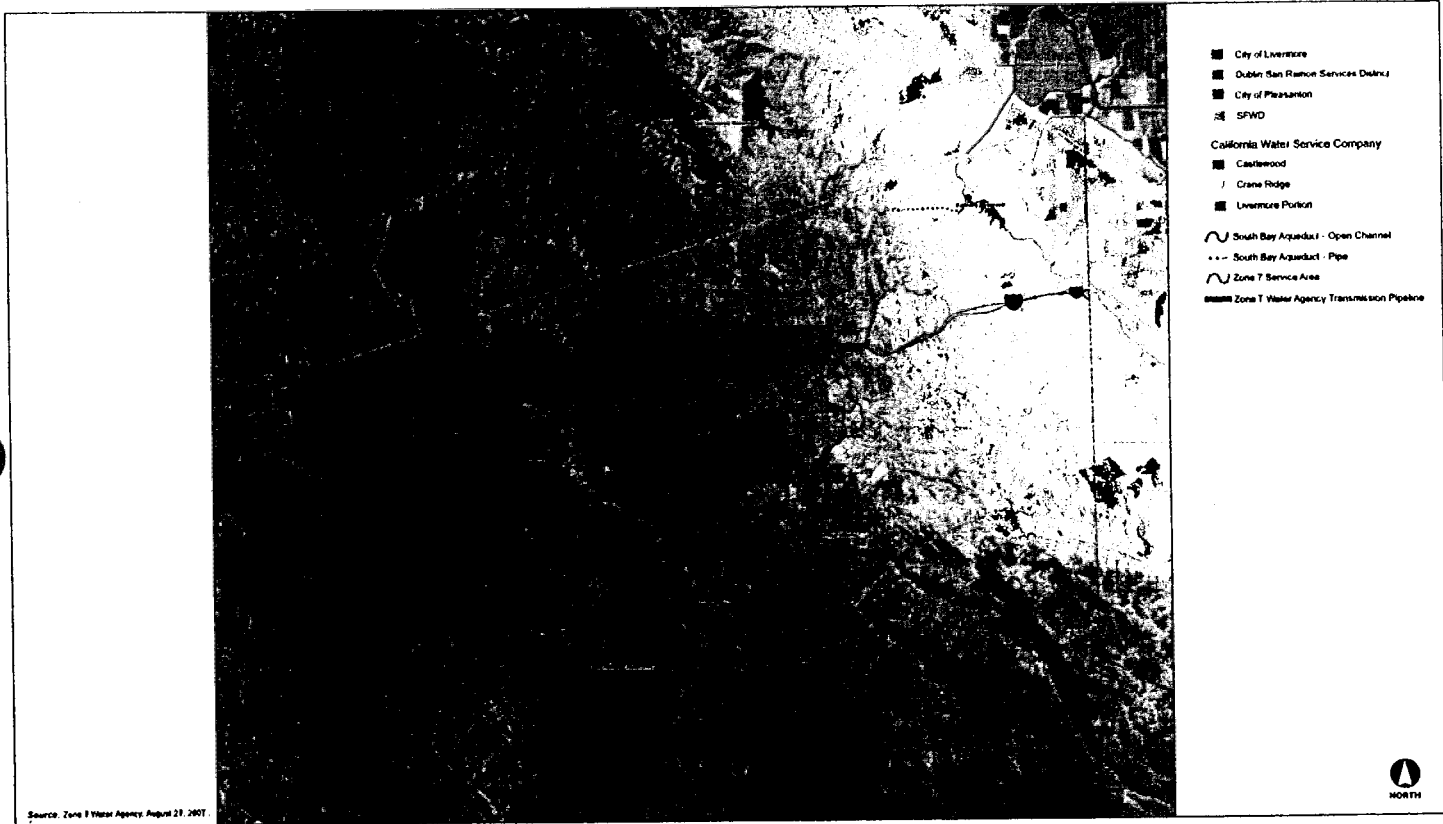
On a larger scale, Zone 7's service area lies within the Alameda Creek Watershed. This watershed encompasses almost 700 square miles and extends in the east to Altamont Pass, west to Union City on the San Francisco Bay, north to Mount Diablo and south to Mount Hamilton.

Major streams in the Alameda Creek Watershed include the Arroyo Valle, Arroyo Mocho, Arroyo Las Positas, Alamo Canal, and South San Ramon and Tassajara Creeks. Arroyo Valle and Arroyo Mocho both originate in the woodland forests of the Burnt Hills region of Santa Clara County above Lake Del Valle. These streams have the largest drainage areas within Zone 7's service area. In addition, both streams are components of Zone 7's groundwater recharge program.

The Arroyo Valle flows into Lake Del Valle above Lang Canyon, then flows out below the Del Valle Dam and continues a journey westerly through a regional park on the southern border of Livermore and into Pleasanton. Its path continues southwest through the historic downtown region of Pleasanton and finally joins the Arroyo de la Laguna.

The Arroyo Mocho remains a natural waterway flowing southwest through the oak woodlands east of Livermore. It then flows through the southern portion of Livermore, then out through the gravel mining area west of Livermore where it joins the Arroyo Las Positas at El Charro Road, just southeast of the Project site.

The Arroyo Las Positas mainly flows westerly along I-580. The major tributaries of the Arroyo Las Positas include the Arroyo Seco, Altamont Creek, Cayetano Creek, Collier Canyon Creek, and



Source: Zone 7 Water Agency Report 27, 2007.



PBSJ FIGURE 3
 Zone 7 Water Agency Service Area and Local Retailers
 04/19/02.01

Staples Ranch WSA

Cottonwood Creek. Just northeast of the current Pleasanton city limits, the Arroyo Las Positas joins the Arroyo Mocho. Figure 4 shows the Arroyo systems in Zone 7's service area.

5.1.1 Water Treatment and Capacity

Zone 7 currently operates two water treatment plants (WTP), Del Valle WTP and Patterson Pass WTP. Total surface water treatment design capacity is 55 mgd. At present, Zone 7 is in the final design, permitting and pre-bid stages of constructing a third WTP in the Altamont Hills. The Altamont WTP will initially treat 24 mgd and but is being planned to expand up to 42 mgd as needed over the next 20 years. When all three WTPs are operating at capacity, Zone 7 will be capable of producing up to 98 mgd. Zone 7 also operates seven wells located in Pleasanton within three well fields – with a combined peak pumping capacity of 32 mgd. In order to ensure proper distribution of both its treated surface water and groundwater well supplies, Zone 7 also manages a regional pipeline transmission and conveyance system used to transport potable water supplies to the retail water agencies.

5.2 City of Pleasanton Service Area and Water System

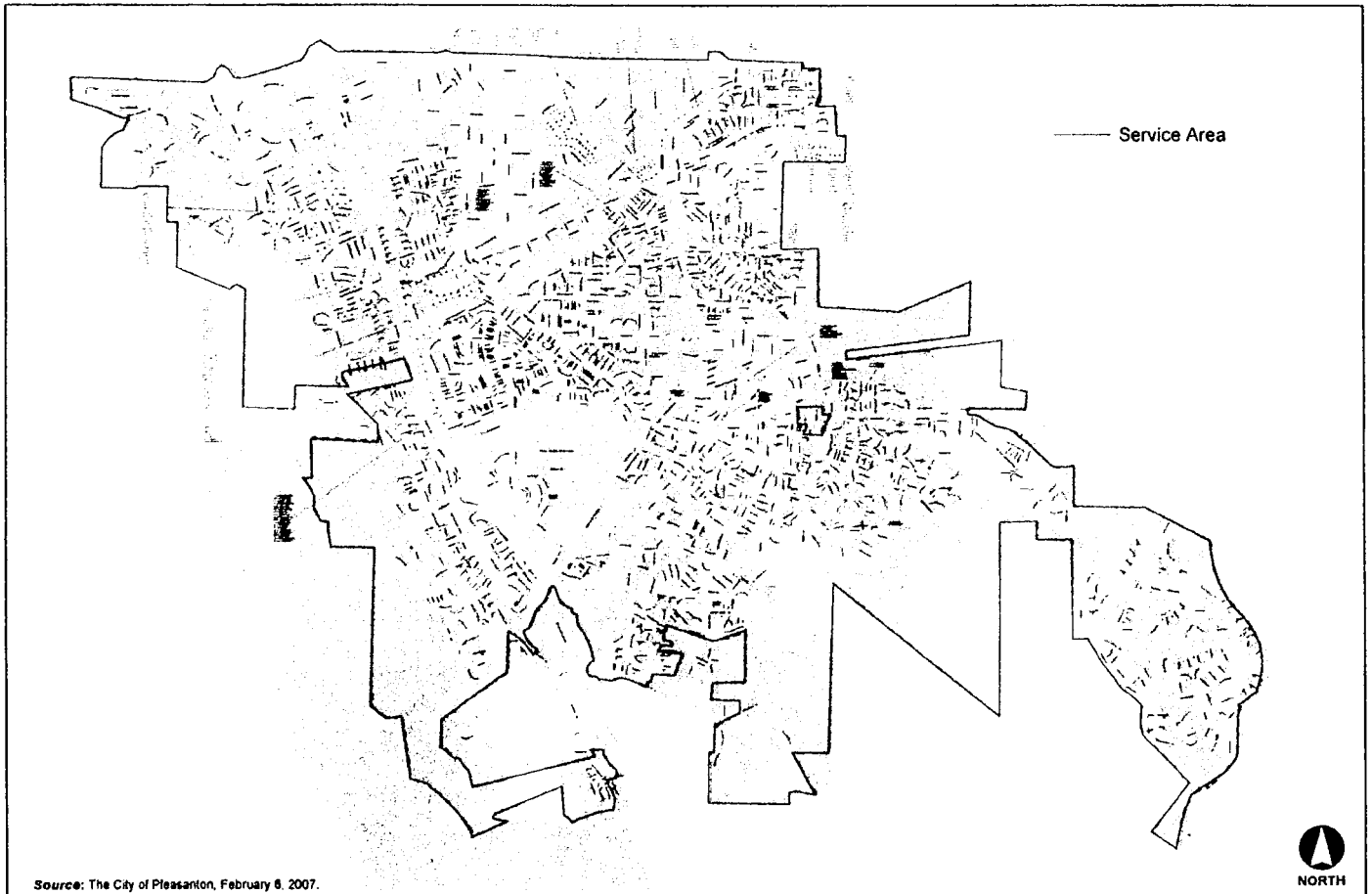
The City of Pleasanton's Water Department supplies water to approximately 22,000 residential, commercial, industrial, governmental, and landscape irrigation customers throughout the city limits.⁷ The City's water supply system is primarily dependent on the supply of water available from Zone 7 sources (supplying approximately 75 – 80 percent of the City's annual water demand). The City's transmission and distribution system connects with Zone 7's water conveyance pipelines at seven metering locations (turnouts) located throughout the City. The City also operates three municipal groundwater wells to supplement the purchased supplies. These wells supply the remaining 20 – 25 percent of total annual City water demand. The City's service area is shown in Figure 5.

5.3 Water Supply Setting

5.3.1 Climate

Pleasanton's climate is best described as Mediterranean, characterized by hot, dry summers and cool, moist winters. Annual precipitation in the region varies from 24 to 28 inches in the western portions of the Livermore-Amador Valley to approximately 14 inches in the more arid, eastern locations. Table 5-1 shows the average annual precipitation, evapotranspiration and irrigation demands in and around the project area.

⁷ Personal Communication with City of Pleasanton Utilities Department, October 2007.



Source: The City of Pleasanton, February 6, 2007.



FIGURE 5
City of Pleasanton Service Area

D41162.01

Staples Ranch WSA

Table 5-1: Average Annual Precipitation, Evapotranspiration and Irrigation Demands

Month	ETo (In) ^a	Average Total Precipitation (In) ^b	Irrigation Demand (In) ^c
January	0.82	2.91	0.0
February	1.47	2.57	0.0
March	2.92	2.12	0.9
April	4.4	1.12	3.8
May	5.57	0.44	6.0
June	6.66	0.1	7.7
July	7.4	0.02	8.6
August	6.35	0.05	7.4
September	4.73	0.16	5.3
October	3.34	0.7	3.1
November	1.54	1.72	0.0
December	1.01	2.63	0.0
Annual	46.21	14.54	42.8 (3.56 ac-ft/acre)

Notes:
 a. CIMIS - Station 181.
 b. Western Regional Climate Center.
 c. 5 percent leaching fraction and 90 percent distribution uniformity.

5.3.2 Supply Sources

Zone 7 has three main sources of water: State Water Project (SWP) water via the South Bay Aqueduct (SBA), surface runoff collected in the Lake Del Valle Reservoir, and groundwater. SWP surface water makes up the bulk of the regional water supplies conveyed by Zone 7 to its retail customers. These sources combined supply nearly all of the water to the cities of Dublin, Livermore, and Pleasanton.⁸

5.3.3 Zone 7 Water Supplies

Zone 7's three main sources of water supply are divided into five subcategories: 1) the Livermore-Amador Valley Groundwater Basin; 2) Out-of-Basin water storage options; 3) contracted SWP supplies; 4) water through Lake Del Valle system; and 5) recycled water. The following discussions present the planned and existing uses of each category.

5.3.4 Local Groundwater

5.3.4.1 The Livermore-Amador Valley Groundwater Basin

The Livermore-Amador Valley Groundwater Basin (LAVGB) is in the heart of the Livermore Valley, extends south into the hills south of Pleasanton and Livermore. Figure 6 presents groundwater basin information and well locations. It includes 65,000 acres occupied by both the Livermore Valley (42,000 acres) and the Livermore Uplands (23,000 acres). A major portion of the LAVGB is the Main Groundwater Basin (Main Basin), which covers an area of over 17,000 acres and has the highest-yielding aquifers and best quality water.⁹ The DWR Bulletin 118 has not identified the Main Basin (DWR Basin No. 2-10) in an overdraft condition or a basin expected to be in overdraft in the

⁸ The municipal retailers supplement their Zone 7 supplies by pumping their GPQ from the Main Basin; the safe yield from natural recharge of the Main Basin is calculated at 13,400 AFA.

⁹ Zone 7 Water Agency Groundwater Management Plan, 2005, page 3-4.

future.¹⁰ The GMP contains comprehensive discussions of the Main Basin along with groundwater management and resource planning. Basin descriptions were excerpted from Chapter 3 of Zone 7's GMP:

Hydrogeology

Structural uplift of the entire Coast Ranges occurred during the late middle Pliocene and Pleistocene, causing extensive folding and faulting of the region. The Livermore Valley, a structural valley, formed by a faulted asymmetric syncline, was created as a result of downwarping of the Miocene-Pliocene sandstones and conglomerates between the western bordering Calaveras Fault and the eastern bordering Greenville Fault. Continued deposition, uplift, and faulting have led to the current Livermore Valley stratigraphy. The valley is partially filled with Pleistocene-Holocene age (recent alluvium) alluvial fan, stream and lake deposits, which range in thickness from a few feet along the margins to nearly 400 (and possibly 800) feet in the west-central portion. The alluvium consists of unconsolidated gravel, sand, silt, and clay. The southern region of the Livermore Valley, the most important groundwater recharge area, consists mainly of sand and gravel that was deposited by the ancestral and present Arroyo Valle and Arroyo Mocho. The eastern and northern regions of the valley contain thinner deposits and consist of alternating layers of gravel, sand, silt, and clay that are laterally discontinuous and resulted from the deposition of smaller streams. The western region of the valley has extensive gravel layers alternating with thick clay beds totaling approximately 400 feet in thickness. The alternation of sand/gravel layers and silt/clay layers form the basic aquifers for the area.

In general, multiple aquifers are recognized in the alluvium of the Livermore Valley. The alluvium increases in thickness from east to west across the basin and thins both north and south at its boundaries. The alluvium also thickens from north to south to the central portion of the groundwater basin and then thins from the center toward the south. Although the upper portions of the alluvium appear to be very thick and continuous in the middle of the basin, the deeper aquifers are often discontinuous and/or poorly interconnected.

The Livermore Formation consists of beds of clayey gravels and sands, silt, and clay that are unconsolidated to semi-consolidated and estimated to be 4,000 feet thick in the southern and western portion of the basin. These sediments display lower yields in the upland areas. Groundwater from this formation is sodium bicarbonate in nature and of moderately good quality. Minor amounts of groundwater are believed to move along the strike of the beds to the northwest and enter the Main Basin (see detailed description below) at the southern portions of the Bemal and Amador sub-basins. The Tassajara and Green Valley Formations, located in uplands north of the valley, are roughly Pliocene in age and were deposited under both brackish and freshwater conditions. They basically consist of sandstone, tuffaceous sandstone/siltstone, conglomerate, shale, and limestone. Water movement from these formations to the Main Basin is precluded by either structural alteration where beds dip away from the general groundwater flow of the valley or by nonwater bearing stringers (tuff and clay particles). The near-vertical structural dip of the Tassajara and Green Valley formations is believed to prevent the commingling of waters among these formations and the alluvium, essentially cutting this water off from the groundwater basin. Groundwater from these formations is sodium bicarbonate in nature and of moderately good quality.

Main Basin

The groundwater basin has been divided into two major parts based on importance. For the past 20 years the term *Main Basin* has been used for that portion of the groundwater basin covering the 17,000 acres that contain the highest-yielding aquifers and best quality water within the Livermore-Amador Valley Groundwater Basin. The less important area is called the fringe basin.

The Main Basin is located in the central and southwestern portion of the groundwater basin. This area has a much larger capacity than the surrounding areas to store and convey groundwater, particularly in the deeper or lower aquifer zones located below the Main Basin..

10 Department of Water Resources, Bulletin 118 Updated January 20, 2006.

Between the early 1900s into the early 1960's, the Main Basin has been relied upon to provide for much of the Valley's local water supplies and continues to be a reliable and significant local groundwater supply. Between about 1980 and 1988, this area was called the central basin. Since 1988, the central basin, except for the eastern portion of Livermore, has been referred to as the Main Basin.

Several subsurface barriers to lateral groundwater movement form the boundaries of the Main Basin. Observations and investigations by Zone 7 and others continue to confirm the existence of these groundwater barriers. Faults are the major structural features known to have marked effects on the movement of groundwater in this region. Faults in this region tend to act as barriers to the lateral movement of groundwater.

The Main Basin is comprised of the Castle, Bernal, Amador and Mocho II Sub-Basins and is bounded on the:

- north by the Parks Boundary (which was initially considered to be fault-related, but may actually be a depositional boundary between recent alluvium and older material);
- east by shallow bedrock separating Mocho I from Mocho II sub-basins;
- south by shallow bedrock and the Livermore Uplands; and
- west by the Coastal Ranges and the Calaveras Fault.

The portion of the groundwater basin that is outside the Main Basin is called the fringe basin. The majority of the connectivity between the fringe and Main Basins is through the Upper Aquifer Zone. Subsurface inflow from the Lower Aquifer Zone is considered negligible. Particular Sub-Basin boundaries and features are described in more detail below.

Sub-Basins of the Main Basin

Castle Sub-Basin

The Castle sub-basin is a thin strip that extends along the southwestern portion of the Main Basin. It is bounded to the south, west, and north by marine sediments of the Coastal Range and to the east by the Calaveras Fault. While usually included in the Main Basin, this sub-basin is not used for municipal groundwater production. Only small production wells are located in this area.

Bernal Sub-Basin

The Bernal sub-basin is located in the southwestern portion of the groundwater basin and is bounded to the west by branches of the Calaveras Fault, to the east by the Pleasanton Fault, to the north by the Parks Boundary, and to the south in part by contact with non-water-bearing formations and partly by contact with the Verona Fault. Both unconfined and confined aquifers exist in the water-bearing sediments. Waters from the northern and central portions of this sub-basin are of fair to excellent quality. However, much of the upper aquifer water has high TDS exceeding 600 mg/l. The water from the northern and southern portions of the sub-basin are of sodium bicarbonate nature, while the central portion is of the magnesium bicarbonate type and the western and south-central portions are of calcium bicarbonate character.

The area overlying the Bernal sub-basin is the point of convergence for all major streams that drain the Livermore Valley. The area overlying the sub-basin is subsequently drained by the Arroyo de la Laguna. Like surface water, groundwater also historically converges in this sub-basin, which allows for the mixing of the dominant cations of sodium, magnesium, and calcium. The Quaternary alluvium is estimated to have a thickness of at least 800 feet in this sub-basin and overlies the Livermore Formation. Well production (primarily by Zone 7) in this sub-basin currently ranges up to 3,500 gallons per minute (gpm), and specific capacities range from 3 to 260 gpm per foot of drawdown.

Other basin pumpers include the City of Pleasanton (although much of City of Pleasanton's pumping has shifted to the West Amador sub-basin, discussed below), San Francisco Public Utilities Commission (supplying the Castlewood area) and the Alameda County Fairgrounds. Historically (pre-1960's), this Sub-Basin was overdrafted but has since been partially refilled

and is used more as a drought supply of water and less for an annual regional supply due to Zone 7's groundwater management efforts, including the importation of surface water from the SWP.

Amador Sub-Basin

The Amador sub-basin is located in the west central portion of the groundwater basin and is bounded to the west by the Pleasanton Fault, to the east by the Livermore Fault, to the north by a permeability barrier of inter-fingering of alluvial deposits and partly by the Parks Boundary, and to the south by the drainage divide and partly by contact with non-water-bearing formations. This sub-basin is host to the majority of high production wells and has both unconfined and confined aquifers. Waters from this sub-basin are of good to excellent quality, characterized by sodium bicarbonate, magnesium bicarbonate, and calcium bicarbonate with few instances of elevated levels of boron and nitrate.

This sub-basin of Quaternary alluvium has a maximum thickness of approximately 800 feet and overlies the Livermore Formation, which may be up to 4,000 feet thick. Well production (primarily by Zone 7 and the City of Pleasanton) in this sub-basin ranges from 42 to 2,820 gpm and specific capacities of 1.1 to 217 gpm per foot of drawdown.

Mocho II Sub-Basin

The Mocho sub-basin has been divided into two distinct areas, Mocho I and Mocho II, by a line of very low hills thought to be exposures of the Livermore Formation. The basins are further distinguished by a change in aquifer characteristics from a sodium bicarbonate (Mocho I) to a magnesium bicarbonate water type (Mocho II).

Of the entire Mocho sub-basin, only a portion of the Mocho II sub-basin is in the Main Basin. This portion of the Mocho II sub-basin is located in the east central portion of the groundwater basin and is bounded to the west by the Livermore Fault, to the east by thinning young alluvium and exposed Livermore Formation, to the north by the Tassajara Formation that is not hydraulically connected to the sub-basin and the Parks Boundary, and to the south by the Livermore Uplands and contact with non-water-bearing marine formations. Both unconfined and confined aquifers exist in the water-bearing sediments. Waters from this sub-basin are of fair to excellent quality sodium bicarbonate (Mocho I) and magnesium bicarbonate character (Mocho II), with some instances of elevated boron and sodium ions. The recent alluvium ranges in thickness from approximately 10–50 feet in Mocho I and up to 150 feet in Mocho II. In both sub-basins the alluvium overlies the Livermore Formation, both conformably and unconformably. The silty/clayey overburden is mostly missing. The Upper Aquifer is exposed at the surface in much of the area. Mocho I and Mocho II appear to be hydraulically connected only in the shallow alluvial deposits. Well production in this subbasin (primarily by CWS) ranges up to 950 gpm with specific capacities of 2 to 50 gpm per foot of drawdown.

Groundwater Levels and Storage

Historically, much of the Main Basin experienced artesian conditions. In the late 1800s, the pre-development groundwater levels in the basin created a gradient, causing groundwater to flow from east to west and naturally exit the basin as surface flow in the Arroyo de la Laguna. In the early and mid-1900s, groundwater began to be extracted in appreciable quantities, causing groundwater levels to drop throughout the basin. As a result, groundwater levels dropped below the point where groundwater would naturally rise into Arroyo de la Laguna and exit the basin via streamflow. Water levels continued to drop in the Main Basin through the 1960s. The trend began to reverse in 1962 when Zone 7 Water Agency began importing water from the State Water Project (SWP) and later in the 1960s when Zone 7 began capturing and storing local runoff in Lake Del Valle.

The first imports were utilized in an off-stream recharge facility called Las Positas Pit. This facility was operated from 1962 until the late 1970s and again, briefly, in the 1980s. Thus, after experiencing historical groundwater lows in the 1960s, Main Basin water levels stabilized in the late 1960s and started to rise in the early 1970s with the advent of regional groundwater management programs. Groundwater levels approached the "historic low" again during the

1977 and 1987–1992 droughts, although 1992 water levels in many monitoring wells were significantly below the previous historic lows of the 1960s.

Today groundwater in both aquifer zones generally follows a westerly flow pattern, like the surface water streams, along the structural central axis of the valley toward municipal pumping centers. The majority of subsurface inflow, however, occurs across the northern boundaries of the Main Basin—in particular the Dublin and western Camp sub-basins—and flows in a southerly direction. (Zone 7, 2004) These sources of groundwater commingle in the Bernal and Amador sub-basins and have a general flow toward municipal or gravel mining company groundwater pumping wells or pits. (Zone 7, 2004) The relatively low hydraulic conductivity of the aquitard layers impedes the vertical movement of groundwater between the Upper and Lower Aquifer Zones. The exchange between the two aquifers, as indicated by the groundwater monitoring data, varies depending upon the thickness and permeability of the separating aquitard and the potential gradient. Even though the movement of water and salts from the upper aquifer to the lower aquifer is slow, it is still the major sources of recharge to the lower aquifer. (Zone 7, 2004)

The Main Basin has a storage capacity of more than 250,000 acre-feet. The Main Basin was full in early 1900 and full again in 1983. Groundwater has been withdrawn down to historical low storage in 1962 and 1966 with an estimated remaining storage of 128,000 acre-feet. (Groundwater levels approached the "historic low" in some parts of the basin during the droughts of 1977 and 1987– 1992.) In 1987, Zone 7 adopted a Groundwater Management Policy that included maintaining groundwater levels high enough to provide emergency reserves adequate for the worst credible drought. For planning purposes, Zone 7 maintains this reserve above historical lows. The remaining half of the groundwater (that portion above historical lows) is actively managed for supply reliability and is used for water supply storage, and recovery during times of drought or emergency. (Zone 7, 2004) In 2002, as part of the development of Zone 7's Well Master Plan, Zone 7 further defined "historic lows" as a piezometric surface used to manage groundwater levels.



Source: Zone 7 Water Agency, June 1, 2007.

FIGURE 6
Groundwater Basins

D41162.01



Staples Ranch WSA

5.3.4.2. Groundwater Basin Management

In years prior to construction of the SWP and other surface water deliveries, groundwater was the sole source of water for the entire Livermore-Amador Valley. The Main Basin experienced several periods of extended withdrawals and subsequent recovery in normal or wet years. In the 1960's, approximately 110,000 acre-feet of groundwater was extracted for supply uses; this resulted in an estimated historic low of 130,000 acre-feet remaining in storage. Now, under all circumstances, this historic low is considered a not-to-exceed threshold in any given year. Significant recovery of the Main Basin to pre-1960's levels was achieved in the twenty year span of 1962 to 1983. It was during this era that Zone 7 initiated a series of programs to build reliability into their water supply system. First, Zone 7 conducted a program of groundwater replenishment by artificially recharging via local streams with imported surface water for storage in the Main Basin; secondly, Zone 7 commenced using treated surface water to augment groundwater supplies; and finally, Zone 7 began regulating groundwater pumping throughout their service area by contractually establishing annual Independent Quotas (IQ) now known as a Groundwater Pumping Quota (GPQ) for each municipality.

Groundwater levels in the Main Basin are routinely monitored by Zone 7 staff. Two independent methods are used to estimate groundwater storage: 1) Hydrologic Inventory and 2) Nodal Water Level. The Hydrologic Inventory method computes storage change each quarter from basin supply and demand data. This method can also be used to forecast future water storage conditions. The Nodal Water Level method computes storage from hundreds of water level measurements. According to the City of Pleasanton's UWMP, the correlation between these two distinct methods ensures confidence in Zone 7's ability to measure, monitor and even forecast groundwater storage changes in the Main Basin.¹¹

Zone 7 operates the groundwater basin to maximize conjunctive use of regional water supplies. Currently, the Main Basin is managed so that under non-emergency conditions, including several multi-year droughts, groundwater elevations do not drop below historic low levels of 130,000 AF. Present day operational plans consistently maintain approximately 130,000 AF [above the historic low] for extreme emergency storage at all times.

Under Zone 7's Basin Management Plan (Plan), in wet and normal years, groundwater is replaced through artificial recharge in the Arroyo Valle stream system using imported surface water. Operational plans call for seasonal storage through artificial recharge of 15,000 to 20,000 AF of water within the groundwater basin. In other words, Zone 7 replaces seasonal Main Basin extractions with an equal quantity of artificially recharged water. This seasonal replacement program helps maintain at least 110,000 AF for "drought storage" in the Main Basin. Zone 7's operational policy is to maintain the balance between the combination of natural and artificial recharge and groundwater withdrawals. This preserves approximately 240,000 AF of total storage in the Main Basin for drought and emergency use - 110,000 AF for drought storage and 130,000 AF to be used only in case of extreme emergency. The Plan allots a portion of 110,000 AF of Main Basin "drought storage" for extraction in dry years to make up for any SWP shortages that may occur due to hydrologic conditions or environmental constraints placed on the SWP system, such as the California aqueduct pump shutdown in June 2007.¹² In terms of reliability, this amount is sufficient when used in conjunction with other water supplies and [Out-of-Basin] groundwater storage in

11 2005 Zone 7 Water Agency Urban Water Management Plan, page 19.

12 City of Pleasanton letter dated June 8, 2007: Regarding the Department of Water Resources Pump Shutdown June 2007 Zone 7 provided adequate water to Pleasanton by utilizing groundwater storage in addition to supplies in the Del Valle Reservoir.

Semitropic Water Storage District and Cawelo Water Storage District to sustain demands throughout Zone 7's service area through the worst credible drought.¹³

As part of the Plan, Zone 7 established a safe yield for annual groundwater extractions by the Tri-Valley retailers. The safe yield or long-term sustainable yield is defined as the average amount of water that can be pumped annually from the Main Groundwater Basin and replenished by natural recharge. Safe yield is 13,400 AFA for the cities of Pleasanton and Livermore, DSRSD and other local pumpers, which is about 6 percent of the total estimated groundwater storage and is based on over a century of hydrologic records and projections of future recharge conditions.¹⁴

5.3.4.3. Surface Water Supplies

5.3.4.3.1. State Water Project Supplies

In November 1961, Zone 7 entered into a 75-year agreement with DWR and in 1962, received its first delivery from the SWP. Zone 7 was the first wholesaler to receive SWP water. SWP water originates within the Feather River watershed above Lake Oroville, and flows via the Sacramento-San Joaquin Delta to the California and SBA's into Zone 7's two current water treatment facilities, the Del Valle Water Treatment Plant and the Patterson Pass Water Treatment Plant.

Imported surface water forms the majority of Zone 7's water supply portfolio; this equates to about 75 percent of the total treated water supplied to its four retail water customers. SWP water meets all Municipal and Industrial (M&I) demands, agricultural and other raw water demands, and is also used to artificially recharge the groundwater basin. Zone 7 reached its initial SWP contract maximum of 46,000 AFY in 1997. DWR and Zone 7 developed a delivery schedule commonly referred to as Table A Amount Schedule. Since then Zone 7 has obtained additional SWP allocations through water transfers with other SWP wholesalers, and now has long-term SWP contracts for delivery of up to 80,619 AFA. Table 5-2 presents sources and quantities along with contract terms.

For long-term water supply planning purposes, due to annual hydrologic conditions, requests by other SWP contractors, facility limits within SWP facilities, along with environmental/ State regulatory requirements, DWR will not be able to supply Zone 7's full Table A Amount of 80,619 AF in any given year. To compound the situation, as Metropolitan Water District in Southern California takes more of its SWP allotment each year, the annual SWP yield to other contractors is likely to decline. Furthermore, the average yield of the SWP will continue to decline as demands on the system continues to increase from 3.8 to 4.1 million acre-feet per year. Zone 7 staff reviewed DWR's State Water Project Delivery Reliability Report (December 2002) that presented the results of the CALSIM II modeling for SWP systems; DWR's operational studies indicate an average future yield of just less than 76 percent of Zone 7's full allocation, or 60,900 AFA based on the current SWP Table A amount of 80,619 AFA.¹⁵

13 2005 Zone 7 Water Agency, Urban Water Management Plan, page 19.
14 2005 Zone 7 Water Agency Urban Water Management Plan, page 20.
15 Zone 7 Water Agency, Sustainable Water Supply Report, April 2007 page 3.

Table 5-2: Zone 7 Water Supply Sources

State Water Project Sources	Contract Maximum Amount (AFA)	Contract Term/Expiration
Zone 7 SWP 1962 Contract (DWR Table A)	46,000	November 20, 2036
New SWP Transfers and Contract Amounts (DWR Table A)		
Berrenda Mesa SWP Transfer	7,000	November 20, 2036
Lost Hills SWP Transfer	15,000	November 21, 2036
Kern County SWP Transfer	10,000	November 22, 2036
Belridge SWP Transfer	2,219	November 23, 2036
Tulare Lake Basin Water Storage District SWP Transfer	400	November 24, 2036
Subtotal State Water Project	80,619	
SWP Delivery Reliability Report 2002^a	60,900	
Other Surface Water Supply Sources		
Arroyo Del Valle Water Rights (Lake Del Valle) ^d	9,300	Perpetual Renewal
Byron-Bethany Irrigation District ^c	2,000	December 31, 2028
Reclaimed		
Wastewater	1,900	In Perpetuity
Groundwater Sources		
Main Basin Safe Yield ^d	13,400	
Zone 7 Sustainable Water Supply^e	87,500	Calculated Annually
Additional Groundwater ^f	15,000-20,000	In Perpetuity
Total Water Supply^g	100,500 – 105,500	
Notes: a. Department of Water Resources - State Water Project Reliability Report 2002 using CALSIM II model data predicted that average future SWP supplies would be 75% -76% of contracted amount; Monterey Agreement DWRSIM model estimated 2020 yield at 75.57% of contract amount. Zone 7 staff agreed that 75.57% or 60,900 AFA average future yield is generally valid. b. Zone 7 Sustainable Water Supply Report, May 2007 uses 9,300 AFA for long-term water supply planning. Lake Del Valle estimated 12,000 AFA as Zone 7 reclaims local aggregate mining sites. c. Contract amount is up to 5,000 AFA, for conservative water resources planning purposes, Zone 7 uses 2,000 AFA. d. 13,400 AFA is naturally recharged to the Main Basin. Zone 7 estimates Main Basin Safe Yield at 13,400 AFA and splits this among Zone 7's retail customers (7,800 AFA) and other local pumpers make up the balance. GPQ = Groundwater Pumping Quota e. Zone 7 Sustainable Water Supply Report May 2007. Zone 7 includes irrigation demands met with reclaimed wastewater from Dublin-San Ramon Water District - this WSA assumes that recycled water is always available and recycled water can be used to offset future increased irrigation demands but would not be available for potable uses. f. 15,000 -20,000 AFA Average Annual Extraction based on historical pumping with no Net Loss to Groundwater Basin - Zone 7 pumpage equals artificial recharge quantity from surplus surface water. g. Total of all Zone 7 Water Supply Sources Source: 2005 Zone 7 Urban Water Management Plan, adapted by PBS&J/EIP September 2007.		

5.3.4.3.2. Lake Del Valle Supplies

Zone 7 holds water rights in the Arroyo Valle. Within the Arroyo Valle watershed, above Del Valle Dam, winter stormwater runoff is captured and stored in the Del Valle Reservoir also known as Lake Del Valle. Lake Del Valle provides Zone 7's service area with upstream flood protection in addition to local surface water storage. The reservoir is unique in that both winter storm runoff and late winter and spring SWP supplies combine to fill it to its seasonal operational capacity. In late fall, DWR typically lowers reservoir levels in anticipation of capturing winter storm run-off and to provide additional flood capacity prior to the rainy season. Del Valle Reservoir water is available through operating agreements between Zone 7 and DWR. The average annual thirty-year historic delivery to Zone 7 from Lake Del Valle has been about 8,000 AFA.¹⁶ The future reliability and long-term yield to 2025 is calculated at 9,300 acre feet based on modeling of historic runoff data and future changes in winter season demands. It is estimated, that as growth occurs and approaches buildout winter

16 2005 Zone 7 Water Agency, Urban Water Management Plan, page 21.

demands would increase allowing more water to be used directly out of Lake Del Valle during rainy months rather than stored and then released for flood control needs.¹⁷

5.3.4.3.3. Chain of Lakes Supplement to Lake Del Valle

Zone 7, in conjunction with the local mining facilities, has formulated plans to reclaim many of the gravel quarries throughout the central portion of the Livermore-Amador Valley for use as groundwater recharge areas and surface water management facilities. The reclaimed quarries would form a "Chain of Lakes" that would allow Zone 7 to capture, store and use more local runoff. Water resource planning studies have shown that local runoff quantities would vary according to the hydrologic year and could reliably supply an additional 3,000 AFY in an average year. Two quarry pits have already been transferred to Zone 7. Completion of the "Chain of Lakes" is scheduled for 2030.

5.3.4.3.4. Recycled Water

Currently, recycled water forms a small component of regional water supplies as it rounds out Zone 7's water portfolio. Tertiary treated wastewater supplied by the City of Livermore and Dublin San Ramon Services District is used for irrigation purposes within portions of Zone 7's service area. At present, almost 3,000 AF of irrigation demands are met with recycled water; 1,900 AFA is calculated into the 2007 Sustainable Water Supply Report. Recycled water is used at the City of Livermore's Municipal Golf Course, at Las Positas College and the business parks along the north side of I-580, at the Dublin City Sports Grounds, and at various other areas within the Livermore-Amador Valley. Staff at Zone 7 anticipates that as irrigation demands increase throughout the Tri-Valley area more recycled water can be used for those purposes. In 2030, roughly 6,000 AFA of tertiary treated reclaimed water would be available for irrigation uses.

5.3.4.4. Additional Zone 7 Supplies

5.3.4.4.5. Transfer Agreements and Opportunities

In 1994, Zone 7 entered into a short-term, 5-year water transfer project with Byron Bethany Irrigation District (BBID), which provided a minimum supplemental water supply of 2,000 AFA; the contract allows a potential 5,000 AFA to be purchased. In 1998, both parties agreed to 15-year contract, renewable every five years up to a total of 30 years. In 2006, Zone 7 purchased 1,000 AF. For conservative water supply planning purposes, Zone 7 uses the minimum 2,000 AFA.

5.3.4.5. Out-of-Basin Groundwater Banking Supplies

5.3.4.5.6. Semitropic Water Storage District

Zone 7 purchased 22,000 AF of storage capacity in the Semitropic Water Storage District (STWSD) Groundwater Banking Program. Subsequently, an additional 43,000 AF of storage capacity for the Dougherty Valley development was acquired to increase reliability to these customers. In total, 65,000 AF of STWSD Out-of-Basin storage allows Zone 7 to bank SWP supplies during above average precipitation years. This STWSD water can be transferred back to Zone 7 via SWP conveyance facilities when the SWP pumping and conveyance facilities are operational.

5.4 Cawelo Water Storage District

In 2004, Zone 7 entered into an "agreement in principle" bond and exchange program with Cawelo Water Storage District (CWSD) for an "In Lieu Banking Program". This involves transferring two acre-feet of surface water from Zone 7 into CWSD storage and taking out one acre-feet in drought

17 2005 Zone 7 Water Agency, Urban Water Management Plan, page 21.

years. Basically, this additional storage capacity acts as drought protection by allowing Zone 7 the option of storing excess imported surface water during wet or normal hydrologic years and then withdrawing this water during dry years.¹⁸ Zone 7 will pumpback at least 10,000 AFA or up to 50 percent of the banked supplies;¹⁹ the contract extends to 2035. This CWSD water can be transferred back to Zone 7 via SWP conveyance facilities when the SWP pumping and conveyance facilities are operational.

5.5 Zone 7 Supply Reliability in Single and Multiple Dry Years

Sustainable water supply is the aggregated quantities of the aforementioned sources; briefly, these include: the sustainable groundwater yield from the Main Basin, the State Water Project average annual delivery, Lake Del Valle average yield, Byron-Bethany Irrigation District water transfer, "Chain of Lakes" supplies, recycled water, and the additional supplies through Zone 7's groundwater Out-of-Basin banking program. In April of each year, Zone 7 staff prepares a Sustainable Water Supply Report based on best available hydrologic data and current contract status; the current sustainable supply is 87,500 AFA.²⁰ These sustainable water supply quantities are long-term average annual quantities; it is anticipated that in dry years surface water supply sources will be greatly reduced, therefore, as a preventive measure, Zone 7 stores excess surface water in wet years when SWP and Lake Del Valle supplies are above average, then in dry years, Zone 7 pumps the stored water out of the Main Basin or from STWSD or CWSD.²¹

The Zone 7 UWMP states, "Zone 7 is capable of providing 100 percent of its contracted water obligations even in the event of the worst case multi-year drought."²² It should be noted, that consumer conservation efforts could reduce demand during droughts, and increase of groundwater extraction coupled with supplies transferred back through either the STWSD or CWSD out-of-basin supplies could sustain the Tri-Valley customers for even longer periods than under a 100 percent (normal year) demand scenario.²³ In other words, Zone 7 plans as if "no conservation" can be achieved. If consumers do reduce demands, Zone 7 could potentially have more water supplies available during drought years. Tables 5-3 and 5-4 forecast Zone 7's supply reliability over the next 25 years during single and multiple-dry year conditions.

Table 5-3: Zone 7 Single Driest Year Water Supply (AFA)

Water Supply Source	Single Driest Year 2005-2012	Single Driest Year 2013-2030
State Water Project ^a	4,030	4,030
SWP Carryover Supply ^b	20,000	20,000
STWSD Pumpback	8,170	8,170
Cawelo Pumpback	~	10,000
Arroyo del Valle Watershed	20	20
Groundwater (Main Basin)	28,200	28,200
Byron Bethany Irrigation District	2,000	2,000
Supply Total	62,420	72,420

Notes:
 a. DWR calculated approximately 5 percent of annual supplies would be available in the Single Driest Year.
 b. SWP Carryover Supply is surplus Zone 7 water stored in DWR facilities in wet or normal years can be utilized to meet demands in dry years.
 Source: 2005 Zone 7 Urban Water Management Plan, adapted by PBS&J/EIP September 2007.

- 18 2005 Zone 7 Water Agency, Urban Water Management Plan, page 30.
- 19 2005 Zone 7 Water Agency, Urban Water Management Plan, page 33.
- 20 2007 Zone 7 Water Agency, Sustainable Water Supply Report page 1.
- 21 2005 Zone 7 Water Agency, Urban Water Management Plan, page 33.
- 22 2005 Zone 7 Water Agency, Urban Water Management Plan, page 22.
- 23 2005 Zone 7 Water Agency, Urban Water Management Plan, page 22.

Water Supply Source	2005-2012			2013-2030		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
State Water Project ^a	66,280	8,060	69,420	66,280	8,060	69,420
SWP Carryover Supply ^b	10,000	10,000	0	10,000	10,000	0
STWSD Pumpback	0	8,680	8,150	0	8,680	15,480
Cawelo Pumpback ^c				0	10,000	0
Arroyo del Valle Watershed	380	290	4,250	380	290	4,290
Groundwater (Main Basin)	17,000	33,400	17,000	17,000	30,730	17,000
Byron Bethany Irrigation District	2,000	2,000	2,000	2,000	2,000	2,000
Supply Total	95,660	62,430	100,820	95,660	69,760	108,190

Notes:
 a. SWP supplies calculated by DWR with DWRSIM modeling and compared to CALSIM II estimates in the 2002 SWP Delivery Reliability Report.
 b. SWP Carryover Supply is surplus Zone 7 water stored in DWR facilities in wet or normal years can be utilized to meet demands in dry years.
 c. Cawelo Pumpback supply available after 2013.
 Source: 2005 Zona 7 Urban Water Management Plan, adapted by PBS&J/EIP September 2007.

5.6 City of Pleasanton Water Supply

The City of Pleasanton has an Interim Municipal and Industrial Treated Water Supply agreement for purchasing treated water supplies from Zone 7. The other three retail water agencies have similar agreements with Zone 7, with many of the basic terms and conditions being identical. Table 5-5 shows Zone 7's historical supply of treated water to the City of Pleasanton. The total valley-wide treated water supplied to all four retail water agencies by Zone 7 is now over 45,000 acre-feet per year or about 40 million gallons per day.

	Year					
	2002	2003	2004	2005	2006	Total
City of Pleasanton	14,744	14,367	15,614	14,553	14,911	74,190

Source: Zone 7 Water Agency Retail Deliveries 2002-2006.

The City of Pleasanton is Zone 7's major customer. In a typical year, Zone 7 supplies approximately 80 percent of Pleasanton's water. The remaining 20 percent is obtained from groundwater pumping at City operated wells. Pleasanton's annual groundwater pumping quota allotment is 3,500 acre-feet per year (which it normally pumps every year).²⁴ Table 5-6 shows Pleasanton's sources of water. The treated water supply agreement provides that Zone 7 shall furnish and supply treated water supplies to Pleasanton and in return Pleasanton agrees to purchase and accept the water supply consistent with the provisions within the contract.²⁵ Pleasanton, (nor any of the other three water retail agencies within the valley), does not possess, within its contract agreement with Zone 7, any "entitlement" to a firm water supply. The contract states, Zone 7 will deliver all of the water requested by Pleasanton, as submitted annually within the water supply schedule for the next succeeding calendar year in an amount not less than the current year of supply.²⁶ In other words,

24 2002 City of Pleasanton Urban Water Management Plan, Annual projections through 2030.
 25 2002 City of Pleasanton Urban Water Management Plan, page 4-11.
 26 2002 City of Pleasanton Urban Water Management Plan, page 4-11.

Pleasanton submits a request each year for a treated supply quantity not less than the water delivered during the current year. The requested amount must also fall within the designated water supply schedule.

Table 5-6: City of Pleasanton Normal/Average Year Supply Sources (AFA)						
	Supply Projections					
Treated Water Purchase Year	2005	2010	2015	2020	2025	2030
Purchased from Zone 7^a	14,553 ^b	18,320	21,800 ^c	22,700	23,400	23,400
GPQ	3,500	3,500	3,500	3,500	3,500	3,500
Total Supply	19,170	21,820	25,300	26,200	26,900	26,900
Notes:						
GPQ: Groundwater Pumping Quota						
a. City of Pleasanton purchases 80% of supply Zone 7 through an annual Contractor/Purchase delivery request, Table 8 Water Demands by Customer from the 2005 Zone 7 Water Agency Urban Water Management Plan, page 35 (from 2010 into the future).						
b. City of Pleasanton's Actual Purchase Amount						
c. Buildout occurs in 2025 – it is estimated that demands would not change dramatically after buildout table assumes "natural conservation through new fixtures" 2002 City of Pleasanton Urban Water Management Plan, Table 3-2 Baseline Water Projections page 3-8.						

Over the past ten years, 75 to 80 percent of Pleasanton's annual water requests have been met by Zone 7 deliveries. In fact, deliveries to Pleasanton account for about 40 to 45 percent of the total treated water available to Zone 7 from all of its available treated water supplies. It is reasonable to assume, based upon historical reliability, that Pleasanton would continue to receive a minimum of 80 percent of its treated water supplies to buildout in 2025 and beyond to 2030 from Zone 7. This percentage was used to determine the City's share of the available treated water supplies from Zone 7. In 2005, the City, per the agreement with Zone 7, requested 15,670 AF; however, actual use equaled 14,533 AF, or a decrease due to lower demand, of about 1,100 AF. Assuming buildout in 2025 and average daily demands ranging from approximately 16 mgd (at present) to 24 mgd (at buildout) by the City, it appears that Zone 7 has sufficient water supplies to serve the City's new water demands up to and including build out conditions and to 2030. This assumes that approximately 40% (current percentage) of the future total water supply available to Zone 7 is delivered to the City of Pleasanton.

6.0 Demands

Analysis of water demand, both historical and projected, is based on the same regional, local, and proposed-project areas as the analysis for supplies. The regional demand analysis addresses the greater regional demand context of Zone 7's service area, which includes SWP demands; the local demand analysis addresses the City of Pleasanton water system specifically, and the project-specific analysis demand calculations are based on the most recent land-use map and information from the project proponent.

6.1 Regional Demands

The regional area includes all of Zone 7's service area and covers demands on groundwater in the Main Basin and imported surface water supplies.

6.1.1 Regional Historical and Projected Demands

As stated previously, Zone 7 is a water wholesaler and supplies treated water to retail water agencies for M&I use. Specifically, the primary retailers are DSRSD, which serves Dublin, portions of San Ramon and the Dougherty Valley development; the City of Pleasanton; the CWSC and the City of Livermore, which together provide water service to the City of Livermore. Zone 7 also serves untreated surface water directly to several agricultural customers and a few other users.

Table 6-1 shows the quantities of treated water supplied by Zone 7 to each of the retailers within the Livermore-Amador Valley over the last five years. As stated in Section 5, these deliveries by Zone 7 were consistent with each retailer's annual treated water purchase request.

	Year					Total
	2002	2003	2004	2005	2006	
DSRSD	8,728	9,140	10,978	9,626	9,825	48,297
City of Livermore	6,733	6,394	6,785	6,625	6,893	33,431
City of Pleasanton	14,744	14,367	15,614	14,553	14,911	74,190
CWSC	7,971	8,267	8,994	8,108	8,784	42,124
Annual Totals	38,176	38,169	42,371	38,912	40,414	198,042

Source: Zone 7 Water Agency Retail Deliveries 2002-2006.

6.1.1.1 Regional Projected Demands

Zone 7's UWMP estimates population growth in Livermore-Amador Valley will plateau in 2025 at approximately 260,000 people and will remain stable (see Table 6-2).²⁷ Table 6-3 shows the projected demands of each retailer served by Zone 7 over the next 25 years to 2030. According to contract provisions or other arrangements between Zone 7 and each municipality, each annual supply purchase request must be greater than the previous year's delivery.²⁸ As demonstrated in Table 6-3, treated water quantities increase from 49,370 AF in 2010 to 61,120 AF in 2030. As expected, total water demands (treated and untreated) will increase from 57,620 AF in 2010 to 69,370 AF in 2030. That quantity for Pleasanton increases from 18,320 AF in 2010 to 23,400 AF or roughly 20mgd in 2030.

²⁷ 2005 Zone 7 Water Agency, Urban Water Management Plan, page 12.
²⁸ 2002 City of Pleasanton Urban Water Management Plan, page 4-11.

Years	2008	2009	2010	2015	2020	2025	2030
Population ^a	214,284	219,766	225,012	246,896	255,397	262,938	263,779

Notes:
 a. Population estimates are consistent with 2005 Zone 7 Urban Water Management Plan, Table 1, page 11.
 Source: Zone 7 Water Agency 2005 Table 1 of Annual Review of Sustainable Water Supply - July Update, August 17, 2005.

Treated Water Purchasers	Projected Demands				
	2010	2015	2020	2025	2030
City of Livermore	7,620	9,400	9,900	10,200	10,200
City of Pleasanton	18,320	21,800	22,700	23,400	23,400
CWSC	10,320	12,600	13,200	13,650	13,700
DSRSD	12,820	12,100	12,900	13,250	13,320
Other Customers	290	340	410	460	500
Total of Potable Water Sales	49,370	58,240	59,110	60,960	61,120
Agricultural Areas	8,250	8,250	8,250	8,250	8,250
Total Water Sales^a	57,620	64,490	67,360	69,210	69,370
Operational Demands					
Artificial recharge of Main Basin ^b	15,000	20,000	20,000	25,000	30,000
Surplus water to STWSD ^c	5,000	5,000	5,000	5,000	5,000
Total Operational Demands	20,000	25,000	25,000	30,000	35,000
Total Demands^d	77,620	89,490	92,360	99,210	104,370

Notes:
 a. Potable and Untreated Water Sales.
 b. Estimated surplus imported water used to offset Zone 7 groundwater extractions from the Main Basin assuming that groundwater pumping averages 15,000 – 20,000 AFA, Zone 7.
 c. Estimated surplus imported water conveyed to Semitropic Water Storage District for Out-of-Basin groundwater banking.
 d. Projected sum of all water demands for Zone 7 Water Agency.
 Source: PBS&J/EIP, October 2007 adapted from Zone 7 Water Agency Urban Water Management Plan Table 8: Water Demand Purchase Projections, page 35.

6.1.1.2. Projected Single Dry-Year and Multiple Dry-Year Demands

In dry years, according to Zone 7's UWMP it is anticipated that system demands would not change unless retailers and consumers were asked to conserve; therefore, Zone 7 assumes demands will not be reduced in dry or multiple-dry year scenarios. However, in 1992, at the end of the 1987-1992 droughts, conservation measures were requested. In that case, conservation measures in the Tri-Valley area achieved nearly 20 percent savings when SWP deliveries were reduced.²⁹ Dry-year and multiple dry-year demands are anticipated to be approximately 64,490 AF in 2015 and up to 69,370 AF in 2030 as shown in Table 6-3. Since then, assuming demands remain at normal-precipitation levels or without water conservation measures Zone 7 developed a water supply portfolio in a manner that offers greater flexibility across a variety of water resources. As previously noted, basin-wide groundwater demands may increase temporarily during periods of SWP curtailments when Zone 7 would pump more groundwater to serve retail customers. The GPQ for each municipality (Pleasanton, DSRSD and CWSC) limits their pumping to the certain amounts without incurring replenishment fees. Because of this potential for short-term increases in groundwater demand, Zone 7 will continually adhere to goals and objectives of the GMP.

29 The demand reductions achieved during the most recent drought of 1987 -1992 had significant reductions [20 percent in the City of Pleasanton] through the combined efforts of Zone 7 and its four retail water suppliers (Dublin-San Ramon Services District, City of Livermore, City of Pleasanton and California Water Service Company): Zone 7 Water Agency 2005 Urban Water Management Plan, page 27.

6.1.2 Local – City of Pleasanton Demands

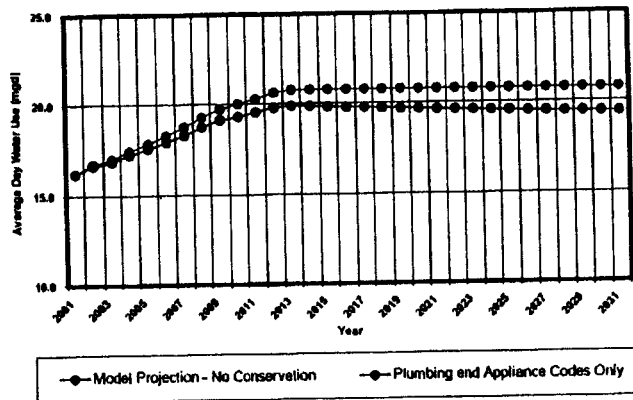
The City of Pleasanton maintains a treated water supply agreement with Zone 7, Table 6-4 shows total water purchased from Zone 7 to meet City demands over the last five years. The City supplements purchased Zone 7 supplies with 3,500 AFA of groundwater pumped from three City local wells.³⁰ Total City demands are also shown in Table 6-4.

	Year					Total
	2002	2003	2004	2005	2006	
Supply from Zone 7 ^a	14,744	14,367	15,614	14,553	14,911	74,190
Groundwater (GPQ) ^b	3,500	3,500	3,500	3,500	3,500	3,500
Total City Demands	18,244	17,867	19,114	18,053	18,411	77,690

Notes:
 a: Zone 7 Water Agency Retail Deliveries 2002-2006.
 b: City of Pleasanton GPQ.

The City of Pleasanton anticipates buildout in 2025; at that point, demands would plateau and remain fairly consistent through 2030.³¹ Estimated demands associated with the 2025 population are 25,300 AFA and by 2030 total demands could increase to 26,900 AFA, or approximately 24 mgd.³² Figure 3-9 from the City's 2002 UWMP presents some water saving data related to natural conservation through water fixture retrofits and other "best management practice" expected to be implemented in City water conservation programs. Projected water demands are shown in Table 6-5. In single dry or multiple dry year scenarios or SWP reductions, this WSA takes a conservative water supply planning approach; first, to remain consistent with Zone 7's regional water supply planning and second, by assuming demands in the City of Pleasanton will remain the same in any given hydrologic year or when changes in SWP deliveries occur due to environmental constraints, as was the case in June 2007.³³

Figure 3-9 Baseline Water Demand Projection with and without Naturally Occurring Conservation



30 City of Pleasanton, 2002 Urban Water Management Plan, page 4-2
 31 City of Pleasanton, 2002 Urban Water Management Plan, Figure 2-4, page 2-10.
 32 Table 3-2 Baseline Water Projection, 2002 City of Pleasanton Urban Water Management Plan, page 3-8.
 33 City of Pleasanton Newsletter dated June 8, 2007: Regarding Department of Water Resources Pump Shutdown June 2007 Zone 7 provided adequate water to Pleasanton by utilizing ground water storage in addition to supplies in the Del Valle Reservoir.

Treated Water Purchase Year	Demand Projections					
	2005	2010	2015	2020	2025	2030
Purchased from Zone 7 ^a	15,670 (Actual use 14,533)	18,320	21,800 ^b	22,700	23,400	23,400
GPQ	3,500	3,500	3,500	3,500	3,500	3,500
Total Water Delivered	19,170	21,820	25,300	26,200	26,900	26,900

Notes:
 GPQ: Groundwater Pumping Quota
 a. City of Pleasanton purchases 80 percent of supply Zone 7 through an annual Contractor/Purchase delivery request, Table 8 Water Demands by Customer from the 2005 Zone 7 Water Agency Urban Water Management Plan, page 35.
 b. Buildout occurs in 2025 - it is estimated that demands would not change dramatically after buildout - assumes "natural conservation through new fixtures" 2002 City of Pleasanton Urban Water Management Plan, Table 3-2 Baseline Water Projections, page 3-8.

As shown in Table 6-5 actual deliveries by Zone 7 to the City in 2005 were less than the requested annual amounts from the City to Zone 7; therefore, any demand reductions could and do achieve some amount of water savings in Pleasanton.

Although, Zone 7 can meet all demands in any given year, demand reductions or water savings achieved through conservation programs could reduce demand pressure on regional Zone 7 supplies. This WSA estimates, in Tables 6-6 and 6-7, the results of 10 and 25 percent voluntary conservation by Pleasanton, in the event that Zone 7 reduces deliveries similar to past reductions that occurred in 1929-1934, 1977 and 1987-1992 or that could occur in the future due to potential environmental mitigation needs within the Sacramento-San Joaquin Delta.³⁴ The tables assume that during Normal water years any water supply cutbacks from Zone 7, such as 10 and 25 percent have similar corresponding water savings by Pleasanton.

Purchase Request Year	2010	2015	2020	2025	2030
Normal Year Supply ^a	18,320	21,800 ^b	22,700	23,400	23,400
10% Zone 7 Delivery Curtailment ^b	16,488	19,620	20,430	21,060	21,060
GPQ	3,500	3,500	3,500	3,500	3,500
Demand with 10% Conservation^{c,d}	19,988	23,120	23,930	24,560	24,560

Notes:
 a. City of Pleasanton purchases 80 percent of supply Zone 7 through an annual Contractor/Purchase delivery request, Table 8 Water Demands by Customer from the 2005 Zone 7 Water Agency Urban Water Management Plan, page 35.
 b. This assumes curtailment by SWP to Zone 7; and 10% cutback to Zone 7 water retailers; however, additional supplies would come from other Zone 7 sources as shown in Table 5-2. Zone 7 did cutback full delivery in past dry year scenarios (1929-1934); (1977); (1987-1992) and it reasonable to assume that this would happen in the future.
 c. In 1991 and 1992 only voluntary demand reduction stages were implemented from the City's drought ordinance; the City experienced a high level of customer cooperation. 2002 City of Pleasanton, Urban Water Management Plan, page 10-4.
 d. City staff met with the Tri-Valley Water Retailers group to continue contingency planning. A joint publication will outline the issues, address the reduced pumping, and request a 10% voluntary conservation effort. Even without the pump shutdown, the Tri-Valley Retailers would be looking for improved conservation methods due to the dry winter season. Operations group has been coordinating with adjacent jurisdictions to assure that water is moved throughout the region to avoid one retailer absorbing the full effect of a pump shutdown. City Managers Letter to City Council June 2007.
 Source: Adapted from City of Pleasanton 2002 Urban Water Management Plan Table 10-1, page 10-3.

34 Zone 7 did cutback full delivery in past dry years (1929-1934); (1977); (1987-1992) and it reasonable to assume that this would happen in the future. Voluntary demand reductions as shown in Table 10-1 City of Pleasanton 2002 Urban Water Management Plan, page 10-3.

Purchase Request Year	2010	2015	2020	2025	2030
Normal Year Supply ^a	18,320	21,800 ^b	22,700	23,400	23,400
25% Zone 7 Delivery Curtailment ^b	13,740	16,350	17,025	17,550	17,550
GPQ	3,500	3,500	3,500	3,500	3,500
Demand with 25 % Conservation ^{c,d}	17,240	19,850	20,525	21,050	21,050

Notes:
 a. City of Pleasanton purchases 80 percent of supply Zone 7 through an annual Contractor/Purchase delivery request, Table 8 Water Demands by Customer from the 2005 Zone 7 Water Agency Urban Water Management Plan, page 35.
 b. This assumes curtailment by SWP to Zone 7, and 25% cutback to Zone 7 water retailers; however, additional supplies would come from other Zone 7 sources as shown in Table 5-2. Zone 7 did cutback full delivery in past dry year scenarios (1929-1934); (1977); (1987-1992) and it reasonable to assume that this would happen in the future.
 c. In 1991 and 1992 only voluntary demand reduction stages were implemented from the City's drought ordinance; the City experienced a high level of customer cooperation. 2002 City of Pleasanton, Urban Water Management Plan, page 10-4.
 d. City staff met with the Tri-Valley Water Retailers group to continue contingency planning. A joint publication will outline the issues, address the reduced pumping, and request a 10% voluntary conservation effort. Even without the pump shutdown, the Tri-Valley Retailers would be looking for improved conservation methods due to the dry winter season. Operations group has been coordinating with adjacent jurisdictions to assure that water is moved throughout the region to avoid one retailer absorbing the full effect of a pump shutdown. City Managers Letter to City Council June 2007.
 Source: Adapted from City of Pleasanton 2002 Urban Water Management Plan Table 10-1, page 10-3.

6.1.3 Staples Ranch Project Demands

6.1.3.1 Historical Project-Site Demands

Historically, the Staples Ranch project site has been used for non-irrigated agriculture. Currently, the County allows dry-land hay production as a means of fire control. Therefore, the proposed project gross water demands are also considered the net change in water demands. The calculated demands for proposed project demands would be greater than existing demands.

6.1.3.2 Projected Project Demands

The expected water use of the proposed project was determined by analyzing demand based on lot size and the associated demand from parks, open space and roads. To determine the water demand factors of the proposed project, water use demand factors were formulated based on data from the 1994 Proposed Water Demand/Wastewater Generation Factors Report by Nolte Engineering and West Yost and Associates, as well as current and historical uses at similar facilities along with information from City and Zone 7 staff.

A final land use plan has not been approved; accordingly, Table 6-8 presents the current proposed land uses and available land use options. The calculated demand represents the worse-case scenario of the potential demand for the proposed project. As stated in the Project Description, in July 2007 the City Council determined that 5 acres of the 16-acre retail/office land use could also be used for a joint neighborhood park/stormwater detention facility. As a result of this action, this analysis employed the higher water demands associated with the 16-acres of retail/commercial to calculate a worse-case water demand scenario. As such, the water demands at the Neighborhood Park are not counted in total water demand. Table 6-8 shows that the proposed project would contribute approximately 349 AFA in water supply demands above the existing demands.

6.1.3.3 Projected Dry-Year and Multiple Dry-Year

In dry years, it is anticipated that the proposed Staples Ranch demand of approximately 349 AFA will not change unless retailers and consumers are specifically asked to reduce demands.

Table 6-8: Proposed Staples Ranch Project Water Demand

Proposed Site Plan	Gross Acres (124.0)	Net Acres	Number of Units	Land Use Designation	Demand Factor	Gallons per Day Annual Average	AFA
Senior Continuing Care Facility ^a (1,400,000 ft ²)	46.1	32.1	1007 (ILU:HCC)	Residential	150 gpd	151,050.0	169
Auto Mall (331,000 ft ²)	37.2	7.6	~	Commercial	2759 gpd/ac ^c	20,968.4	23
Fremont Retail ^d (175,000 ft ²)	16.0	4.02	~	Commercial	0.35 ^e gpd/ft ²	61,250.0	69
Street/Median Landscaping	7.3	7.3	~	Rights of Way	3.56 ac-ft/ac/yr ^f	23,200.5	26
Land Use Subtotal	106.6	51.02				256,469.0	287
Community Park	17	17	~	Open Space	3.56 ac-ft/ac/yr ^f	54,028.8	61
Neighborhood Park ^h	5.1	5.1	~	Open Space	3.56 ac-ft/ac/yr ^f	16,208.6	18
Totals	124	73.12				310,497.8	348
Optional Land Use							
Ice Center ^g	8	8		Commercial	9.9 mgy	27123.3	30
Parks/Open Space	9	9		Open Space	3.56 ac-ft/ac/yr ^f	28,603.5	32
Subtotal of Optional Land Use Water Demands						55,726.7	62
Land Use Subtotal	106.6	51.02				256,469.0	287
Totals with Optional Land Use							350
Notes:							
mgy: Million Gallons per Year.							
a. Applicant request up to 800 Individual Living Units (ILU) plus supporting skilled nursing facilities and up to 207 Health Care Center (HCC) beds in the health center and demand based historical data from one calendar year at La Costa Glen Carlsbad Retirement Community Source: project applicant/proprietor (Cafeteria/Laundry/Guest Services).							
b. Approximately 3,270 parking spaces.							
c. From Placer County Water Agency Integrated Water Resource Plan, Brown & Caldwell, August 2006.							
d. 175,000 ft ² of Retail and Restaurant Uses. Conservative water supply planning this WSA assumes higher restaurant/retail uses over low use office spaces.							
e. Mazzetti & Associates, June 2005 for PAMF-SCC Sutter Health Foundation.							
f. CIMIS - Station 191 Western Regional Climate Center as calculated in Table 5-1 of this WSA.							
g. Optional Land Use of 6 acres of the Community Park Area dedicated to a public Ice Skating Center with 4 ice-rinks plus associated uses. City of Pleasanton, December 2007.							
h. Neighborhood Park water demand is not counted into Water Demand Totals – the 175,000 ft ² of Retail/Restaurant water demands on 16.0 acres is assumed under a worse case scenario.							

7.0 Supply-Demand Comparison

This section reviews the regional, local, and project-level supply and demand considerations.

7.1 Regional Water Supply Sufficiency

Zone 7, as the Tri-Valley wholesale water provider, adopted a Water Supply Reliability Policy in 2002 (Board Resolution No. 04-2662) and revised the resolution in 2004. This policy states "maintain the ability to meet 100 percent of Zone 7's estimated treated water demands 100 percent of the time, including during a multi-year drought period." The "Reliability Policy for Municipal and Industrial Water Supplies," adopted by the Zone 7 Board in May 2002 and revised in August 2004 has two "Goals", the most important for water supply, reads:

Goal 1: meet 100 percent of its treated water customers water supply needs in accordance with Zone 7's most current contracts for Municipal and Industrial (M&I) Water Supply, including existing and projected demands for the next twenty (20) years, even during extended drought periods. Zone 7 will endeavor to meet this goal during an average water year, a single dry water year, and multiple dry water years.

In April of every year, Zone 7 prepares an assessment of sustainable water supplies for the Livermore-Amador Valley. As shown in Table 7-1 below, the 2007 sustainable supply is 87,500 AF as presented in Zone 7's 2007 Sustainable Water Supply Report [Appendix A] and current estimated 2030 "Buildout Demand" is 69,370 AF. Operational studies used in this assessment demonstrate that Zone 7 has sufficient water supply to meet this future demand for every hydrologic year on record.³⁵ The 2007 Sustainable Water Supply Report concludes that Zone 7 has sufficient sustainable supplies to provide for all treated water demands through build-out and for all currently contracted untreated water demands. Again, as previously discussed in Section 4, Zone 7's reliability to deliver water to the Livermore-Amador Valley is secured in a variety of water supply sources that allows Zone 7 a great degree of flexibility within its supply portfolio to meet demands through 2030.

	AFA
State Water Project	60,900
Lake Del Valle	9,300
BBID	2,000
Zone 7 Sustainable Supply Subtotal	72,200
Retailer Groundwater Safe Yield Quantity	13,400
Recycled Water supply	1,900
Total Sustainable Water Supply	87,500

Source: Zone 7 Water Agency Annual Review Of The Sustainable Water Supply, May 16, 2007.

35 2005 Zone 7 Water Agency, Urban Water Management Plan, page 25.

Table 7-2: Zone 7 Single Driest Year Water Supply and Demand (AFA)

Water Supply Source	Single Driest Year 2005-2012	Single Driest Year 2013-2030
SWP ^a	4,030	4,030
SWP Carryover Supply ^b	20,000	20,000
STWSD Pumpback	8,170	8,170
Cawelo Pumpback	~	10,000
Arroyo del Valle Watershed	20	20
Groundwater (Main Basin)	28,200	28,200
BBID	2,000	2,000
Supply Total	62,420	72,420
Estimated Demand Totals^c	57,620	69,370
Available Surplus	4,800	3,050

Notes:
 a. DWR calculated that approximately 5 percent of annual supplies available in Single Driest Year.
 b. SWP Carryover Supply is surplus Zone 7 water stored in DWR facilities in wet or normal years.
 c. Used 2010 demand from Tables 19 and 20, 2005 Zone 7 Urban Water Management Plan, page 65.

Table 7-3: Zone 7 Multiple Dry Years Water Supply and Demand (AFA)

Water Supply Source	2005-2012			2013-2030		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
SWP ^a	66,280	8,060	69,420	66,280	8,060	69,420
SWP Carryover Supply ^b	10,000	10,000	0	10,000	10,000	0
STWSD Pumpback	0	8,680	8,150	0	8,680	15,480
Cawelo Pumpback				0	10,000	0
Arroyo del Valle Watershed	380	290	4,250	380	290	4,290
Groundwater (Main Basin)	17,000	33,400	17,000	17,000	30,730	17,000
Byron Bethany Irrigation District	2,000	2,000	2,000	2,000	2,000	2,000
Supply Total	95,660	62,430	100,820	95,660	69,760	108,190
Estimated Demands	57,620^c	57,620^c	57,620^c	69,370^d	69,370^d	69,370^d
Available Surplus	38,040	5,000	43,200	26,290	390	38,820

Notes:
 a. SWP supplies calculated by DWR with DWRSIM modeling and compared to CALSIM II estimates in the 2002 SWP Delivery Reliability Report.
 b. SWP Carryover Supply is surplus Zone 7 water stored in DWR facilities in wet or normal years.
 c. Assumed 2010 demand from Table 19, 2005 Zone 7 Urban Water Management Plan, page 65.
 d. Assumed 2030 demand from Table 20, 2005 Zone 7 Urban Water Management Plan, page 65.

Zone 7 has developed a water supply portfolio capable of meeting all demands in any given year. Tables 7-2 and 7-3 illustrate the available water supplies as hydrologic conditions change when compared to demand changes of the next 25 years.

This WSA assumes that Zone 7 will adhere to the goals and policies set forth in Board Resolution No. 04-2662 by meeting retail customer demands (purchase requests) first, followed by fulfilling those obligations needed to maintain their annual water storage portfolio. As shown in Table 7-4, the 2007 Annual Sustainable Supply of 87,500 exceeds Total Water Sales in every year. Thereby, Zone 7 could have surplus water available to use for "operational storage" after meeting retail customer demands. Furthermore, as demonstrated in Table 7-4, Zone 7 has adequate supplies

Table 7-4: Zone 7 Projected Average Year Supply and Demand (AFA)

Treated Water Purchasers	Projected Demands					
	2005	2010	2015	2020	2025	2030
City of Livermore	7,470	7,620	9,400	9,900	10,200	10,200
City of Pleasanton	15,670	18,320 ^a	21,800 ^a	22,700 ^a	23,400 ^a	23,400 ^a
CWSC	8,470	10,320	12,600	13,200	13,650	13,700
DSRSD	11,760	12,820	12,100	12,900	13,250	13,320
Other Customers	280	290	340	410	460	500
Total of Potable Water Sales	43,650	49,370	56,240	59,110	60,960	61,120
Agricultural	3,900	8,250	8,250	8,250	8,250	8,250
Total Water Sales^b	47,550	57,620	64,490	67,360	69,210	69,370
2007 Sustainable Supply^c	88,400^d	87,500	87,500	87,500	87,500	87,500
Potential Supply Surplus^e	~	29,880	23,010	20,140	18,290	18,130
Operational Demands						
Artificial recharge of Main Basin ^f	9,000	15,000	20,000	20,000	25,000	30,000
Surplus water to STWSD ^g	5,166	5,000	5,000	5,000	5,000	5,000
Operational Demand Totals	14,166	20,000	25,000	25,000	30,000	35,000
Total Demands^h	61,716	77,620	89,490	92,360	99,210	104,370
Total Available Supplyⁱ	100,500	100,500	100,500	100,500	100,500	105,500
Surplus	~39,000	~23,400	~11,000	~7,600	~1,500	~1,500

Notes:
 a. Includes proposed project demands
 b. Potable and Untreated Water Sales.
 c. Zone 7 Water Agency Annual Review Of The Sustainable Water Supply, May 16, 2007.
 d. From 2005 Annual Review Of The Sustainable Water Supply, July Update, July 2005.
 e. Potential surplus available to meet Zone 7 Operational Demands
 f. Estimated Imported water used to offset Zone 7 groundwater extractions from the Main Basin assuming that groundwater pumping averages 15,000 - 20,000 AFA. Recharge could be as high as 30,000 AFA in 2030.
 g. Estimated surplus Imported water conveyed to Semitropic Water Storage District for Out-of-Basin groundwater banking.
 h. Projected sum of all water demands for Zone 7 Water Agency - this is the sum of Total Water Sales and Operational Demands.
 i. Total Available Supply is estimated at 100,500 - 105,000 AFA depending on Zone 7 groundwater extractions -see Table 5-2 Zone 7 Supply Sources.
 Source: PBS&J, October 2007 adapted from Zone 7 Water Agency Urban Water Management Plan, Table 8: Water Demand Purchase Projections, page 35.

available to meet both retail and operational demands in all years. In years of above average rainfall, Zone 7 could possibly store more water throughout its storage system effectively building up more supplies for dry or multiple dry years.³⁶

7.2 Local Water Supply Sufficiency – City of Pleasanton

Table 7-5 compares the City's projected supply and demand over a twenty-five year planning horizon out to 2030. As shown in Table 7-5, the City can satisfy all customer demands in each year. In fact, in certain years, the City could expect to have surplus supplies because actual treated water deliveries from Zone 7 are less than annual requested delivery amounts; consequently, surplus supplies would be used as additional supplies for Zone 7's drought prevention storage options.

36 2005 Zone 7 Water Agency, Urban Water Management Plan, page 33.

	Projected Demands				
	2010	2015	2020	2025	2030
Treated Water Purchase Request					
Purchased from Zone 7	18,320	21,800	22,700	23,400	23,400
City Groundwater (GPQ)	3,500	3,500	3,500	3,500	3,500
Total Water Delivered	21,820	25,300	26,200	26,900	26,900
Estimated Demands	21,282 ^a	22,403 ^b	22,403 ^b	22,403 ^b	22,403 ^b

Notes:
 a: Demand estimated at 19.0 mgd (21,282 AFA) in 2010 prior to buildout in 2025.
 b: Average Day Demands of approximately 20 mgd with natural conservation after buildout in 2025.
 Source: Table 3-2 Baseline Water Projection, 2002 City of Pleasanton Urban Water Management Plan, page 3-8.

As stated in the UWMP and shown in Table 7-5, Pleasanton, in accordance with its GPQ will continue to pump 3,500 AF from City wells every year. This quantity supplements those supplies purchased from Zone 7. Groundwater is assumed to be drought-resistant and would be reliable in all years. In the event of an extreme emergency, Pleasanton could extract additional groundwater above the GPQ; however, groundwater replenishment fees may be levied by Zone 7, or could be waived in the event of an extreme emergency or other reduction; such as, environmental mitigation needs which may temporarily reduce Sacramento-San Joaquin Delta deliveries in any given year.³⁷

This WSA finds that the City of Pleasanton has sufficient water supplies provided by Zone 7 and within its existing groundwater pumping quota under all hydrologic conditions. Due to Zone 7's long-term success of delivery of water to all customers and commitment to continue to serve treated water to all retailers, when SWP curtailments occur, Zone 7 has supply flexibility through increased groundwater pumping, surface water transfers back and from CSWD and STWSD to continue to meet all demands. In addition, Zone 7, the City of Pleasanton, DSRSD and the CWSC of Livermore, could pump additional local groundwater during drought, emergency or other surface supply reductions to meet demands in the future. Furthermore, as presented in Section 5 consumers and retailers could effectively reduce demands by 10 or 25 percent to relieve demand pressure on Zone 7 supplies. It is reasonable to assume, based on the consumer demand reductions in 1992 that Zone 7 customers would again cutback on per-capita use and reduce demands by up to 25 percent.³⁸

7.2.1 Staples Ranch Project Water Supply Sufficiency

The proposed Staples Ranch project would create an estimated 342 AFA new demand, or about 0.50 percent of Zone 7's anticipated total system demand of 65,490 AFA in 2014, and 0.49 percent of overall treated water demands of 69,370 AFA by 2030. As stated previously, the UWMP adopted in 2002 includes potential water demands that would be generated by land uses designated by the 1989 Stoneridge Drive Specific Plan, including 100 acres of commercial development and a 17.2 acre community park on the Staples Ranch project site. Potential water demands were estimated for the land uses of the Stoneridge Drive Specific Plan; however, a 20 year gap exists between this adopted Specific Plan and actual project implementation. Moreover, within this 20 year period, land use and water supply planning has evolved and water demand factors associated with specific land uses or facilities has been refined. With that understanding, this WSA, per the requirements of SB 610 calculates the water demands of the current proposed project by assuming water demand factors associated with these proposed uses.

37 2002 City of Pleasanton, Urban Water Management Plan page 2-4.

38 Only voluntary stages were implemented from the City's drought ordinance. In 1991 and 1992 the City experienced a high level of customer cooperation. 2002 City of Pleasanton, Urban Water Management Plan, page 10-4.

The Staples Ranch project is in the planning stages. No water infrastructure is available within the proposed project site, but the City's water infrastructure has been extended as part of existing development located just west and south of the project site. To convey water to the proposed project site, this WSA assumes the proposed project would use treated water delivered through newly installed infrastructure connected to and expanded upon the City of Pleasanton's existing water conveyance systems. However, SB 610 only requires a discussion of the plans, timing and funding mechanisms that are in place to acquire the supplies needed to serve the Staples Ranch project site. Moreover, Zone 7 has adequate supplies to serve the water retailers and other water purchasers in its service area and this WSA finds that the City of Pleasanton through an agreement with Zone 7 has adequate supplies to serve the project site now, at buildout, and out to 2030.

8.0 Conclusion

According to the requirements of Water Code Section 10910(c)(3) "the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

As previously shown in Tables 7-2, 7-3, and 7-5, Zone 7 can meet all water demands in normal, single dry and multiple dry years by utilizing its current and expanding water supply portfolio. Further, in the event of single or multiple dry year scenarios when SWP water would be curtailed, Zone 7 has created water supply flexibility and bolstered reliability through groundwater banking programs, Out-of-Basin water storage, additional SWP water transfers and increasing surface water storage through the Chain of Lakes system. Overall water supplies in the Livermore-Amador Valley will be adequate in all year types to meet planned development throughout Zone 7's service area. Again, voluntary demand reduction measures during dry years would help alleviate system demand capacities during periods of SWP curtailments (for drought, emergency or environmental mitigation reasons) and it is reasonable to assume that this level of conservation could be achieved again as it was in 1992.³⁹

This WSA finds that Zone 7, as the potable water supplier to the Livermore-Amador Valley, has sufficient water supplies available to serve the City of Pleasanton, City of Livermore, and City of Dublin along with the other customers now and over a 25 year planning horizon. With that understanding, the City of Pleasanton as a Zone 7 water purchaser has adequate water supplies provided through the Agreement with Zone 7 to meet project demands and cumulative demands through buildout 2025 and beyond to 2030.

39 In 1991 and 1992 the City experienced a high level of customer cooperation. Only voluntary stages were implemented from the City's drought ordinance. 2002 City of Pleasanton, Urban Water Management Plan, page 10-4.



Zone 7 Water Agency **Water Resources Engineering**
 100 North Canyons Parkway, Livermore, Ca 94551
 Tel. (925) 454-5000 Fax (925) 454-5727

ORIGINATING SECTION: Water Resources Engineering
CONTACT: David Lunn

AGENDA DATE: May 16, 2007

ITEM NO.

SUBJECT: ANNUAL REVIEW OF THE SUSTAINABLE WATER SUPPLY

SUMMARY:

Each year Zone 7 staff prepares a water supply assessment of the Livermore-Amador Valley sustainable water supply. Every 5 years Zone 7 includes this information in an update of the Urban Water Management Plan. This report updates the August 2006 information provided to the Tri-Valley Water Retailers Group. The current sustainable supply is 87,500 acre-feet. Operational studies used in this assessment demonstrate that Zone 7 has sufficient water supply to meet future demands for every hydrologic year on record. Operational studies include assessment of the recent final DWR allocation study published in June 2006. The capital facilities needed to convey, recharge, store, treat, pump and deliver this water have been identified and are incorporated into Zone 7's current 10-Year Capital Improvement Plan (CIP). Zone 7 has sufficient sustainable supplies to provide for all potable (treated) water demands through build-out of the cities current general plans and for all currently contracted non-potable (untreated) water demands.

Following are the components of the Livermore-Amador Valley's sustainable water supply:

SOURCE	ACRE-FEET/YEAR
State Water Project future average delivery	60,900
Lake Del Valle future average yield	9,300
Byron Bethany Irrigation District (BBID)	2,000
Subtotal- Zone 7 Sustainable Supply	72,200
Safe groundwater yield from Main Basin	13,400
Recycled Water	1,900
Subtotal: Non-Zone 7 supply	15,300
TOTAL SUSTAINABLE WATER SUPPLY	87,500

BACKGROUND:

Following the most recent multi-year drought (1987-92), the Zone 7 Board requested an annual report of the Sustainable Water Supply. Typically each April since 1992, the Zone staff has reviewed the Livermore Valley's long-term "sustainable water supply" and has prepared a summary report. Since the last drought, Zone 7 has purchased additional long-term water supplies from the State Water Project (SWP). Zone 7's maximum annual contract amount, now referred to as our "Table A Contract Amount", has increased from 46,000 to 80,619 acre-feet. (Note that the Table A contract amount was previously referred to as SWP maximum annual "entitlement" or MAE, but due to potential confusion over the use of the word "entitlement", the SWP will no longer use that term.) With these new purchases, Zone 7 has sufficient sustainable water supplies to provide for all potable water demands through buildout and for all currently contracted non-potable (untreated) water demands.

The scope of the analysis has expanded over the years and has adapted to incorporate changes in State Water Project operations and new Zone 7 facilities. In 2002, staff incorporated multi-year operations modeling and salt balance calculation into our review. This modeling includes an evaluation of all past hydrologic events from the past 80 years and includes the worst single-year drought of record (1977) and the two worst multi-year droughts of record (1928-34 and 1987-92). In 2004, staff expanded the multi-year modeling to incorporate the new version of the DWR CALSIM II that included coordinated operation of State and Federal operations and included the Environmental Water Account. In 2004 the CALSIMII 2021B version was considered the most effective study for future conditions.

In September 2005, Zone 7 updated the Urban Water Management Plan and based it on the most recent data available at that time. DWR had not finalized the "SWP Delivery Reliability Report" and only a draft report (June 2005) was available. At that time Zone 7 utilized "Study Number 7" in the draft report as the most appropriate data source for future SWP delivery. In August 2005, Zone 7 prepared an updated Sustainable Water Supply report to document the data used in the 2005 UWMP update. In August 2005, Zone 7 had sufficient storage to maintain a sustainable water supply and meet full deliveries through about 2014 without pumping the local groundwater basin storage below historic lows. In 2006 Zone 7 purchased additional groundwater storage capacity in the Cawelo Water Storage District Banking Program and made the first deliveries of water into storage. With the recent addition of Cawelo Water Storage District, Zone has sustainable water supplies to meet all potable and non-potable demands through buildout.

In June 2006 DWR published "The State Water Project Delivery Reliability Report 2006" (http://baydeltaoffice.water.ca.gov/SWPrel05_final.pdf) In the summer of 2006, Zone 7 approved the purchase of storage and pump back capacity in Cawelo Water Storage District and transferred 10,000 acre-feet of water to Cawelo for long term drought reliability. This updated analysis includes the most recent studies from the State reliability report and includes the Cawelo Banking program.

COMPONENTS OF THE LIVERMORE VALLEY'S SUSTAINABLE WATER SUPPLY

State Water Project (SWP) future average delivery In 1962, Zone 7 became the first State Water Project Contractor to take water deliveries. Since 1962 Zone 7 has increased our share of water and currently has a long-term contract with the SWP for delivery of 80,619 acre-feet of water a year. This "Table A Amount" was previously referred to as "Maximum Annual Entitlement." However, the SWP with its present configuration and lower demands can only deliver about 82% of its current requested amounts and this quantity will decrease as the demands by all SWP contractors increase. DWR's early operation studies using the older DWRSIM (computer model) under the Monterey Agreement indicate an average future (2020) yield of 75.57% (60,900 acre-feet). "The State Water Project Delivery Reliability Report", December 2002, which uses CALSIM II model data indicates an average yield of 75-76% (74.59% for Study 2021A, 75.73% for Study 2021B). The DWR 2005 Reliability Report, indicates an average yield of 77 percent. Zone 7 staff has reviewed this report and confirms that an estimate of 75.57% as the average future yield is still generally valid.

Lake Del Valle future average yield is water developed by the Zone under its water rights permit for the Arroyo Del Valle. This water is captured and made available in the Del Valle Reservoir through operating agreements with the State Department of Water Resources. The 30-year historic yield to Zone 7 is about 8,000 acre-feet. The future and long-term yield (2020) is calculated at 9,300 acre-feet based on modeling of historic runoff data and future Zone 7 winter season demands. There have been changes in the recharge characteristics of the Arroyo Valle and changes in our joint use of local water with ACWD. Zone 7 staff will have to conduct new modeling studies to assess the impacts of changes in Arroyo Valle recharge characteristics and changes in our joint water operations with ACWD.

Byron Bethany Irrigation District (BBID) This water is purchased from BBID and imported via the South Bay Aqueduct for use in our service area. Zone 7 entered into a long-term (15 year renewable every 5 years) contract with BBID for up to 5,000 acre-feet annually. In 1999 the Zone 7 Board certified the EIR for this water supply. Although we could take up to 5,000 acre-feet per year and have taken up to about 4,000 acre-feet per year, we are using 2,000 acre-feet as a conservative estimate of the sustainable supply from this source.

Subtotal: Zone 7 component of Valleywide sustainable water supply This is the sum of the three sources described above. Zone 7 Water Agency, over our 50 year history has developed over 72 thousand acre-feet of sustainable water supply for the Livermore-Amador Valley and is responsible for the management of over 80 percent of the valleywide supply.

Safe Groundwater Yield From Main Basin is defined as the amount of water that can annually be pumped from the groundwater basin and replenished by average annual natural recharge. More water can be and is pumped from the main basin each year as long as Zone 7 artificially recharges the basin with additional water from our other sources. The long-term baseline safe yield is based on natural recharge and over a century of hydrologic records and projections of future recharge conditions. The safe yield in the main groundwater basin is 13,400 acre-feet annually. From this baseline safe yield, the Valley's major water retailers are permitted to pump a combined 7,200 acre-feet annually. This amount, referred to as the Groundwater Pumping

Quota, is limited as part of our Municipal and Industrial water supply contract with each retailer. The balance of the safe yield is pumped for other municipal, agricultural and gravel mining area uses. Zone 7's pumpage for our treated water system does not use the baseline safe yield from the basin; instead we pump only water that has been recharged as a part of our artificial recharge program.

Recycled water is tertiary-treated recycled water used for irrigation at the Livermore Municipal Golf Course, along Isabel Avenue, the Dublin Sports Ground and for other irrigation needs within the Valley. The City of Livermore has been using recycled water since the mid-1960's and DSRSD started recycled water irrigation in 1999. Recycled water is a very reliable supply, however, the use of recycled water was historically discouraged due to the potential of salt buildup in our groundwater basin.

The Salt Management Plan, which has been incorporated into the Groundwater Management Plan, provides tools and strategies for preventing the general salt buildup which has been slowly degrading the quality of our potable wells for decades. The current salt management strategy calls for increased groundwater recharge and use coupled with pumping of high TDS groundwater that is flowing into the Main Basin. The high TDS groundwater would be demineralized and delivered for potable water use. The concentrate from the demineralization facility would be exported via the LAVWMA pipeline that currently transports all municipal wastewater out of the watershed and directly to the San Francisco Bay. This allows for an expanded use of recycled water, the "uninterruptible" water supply.

The current sustainable supply of 1,900 acre-feet is simply the current estimated amount used for irrigation. This amount is expected to increase.

TOTAL SUSTAINABLE WATER SUPPLY is the sum of the previously discussed sources: The State Water Project future average delivery, 60,900 acre-feet per year; the Lake Del Valle future average yield, 9,300 acre-feet per year, the 2,000 acre-feet of BBID water per year, the safe groundwater yield, 13,400 acre-feet per year; and the recycled water use 1,900 acre-feet per year, for a total of 85,500 acre-feet per year.

These sustainable water supply quantities are long-term average quantities and in dry years the supply from surface water sources will be greatly reduced. Zone 7 Water Agency stores water from our surface water sources in wet years when the SWP and LDV supplies are above average. Then in dry years, Zone 7 pumps more of the stored water out of the Main Basin or transfers water back from our Semitropic and Cawelo Water Storage District accounts.

Zone 7 currently will be able to meet full deliveries even in the worst credible drought including the worst historic single-year drought and any multi-year drought of record.

RECOMMENDED ACTION:

Information item.

February 2009

1. Dublin San Ramon Services District (letter dated June 4, 2008)

- 1.1 The commenter correctly states that the Draft EIR referenced the April 2007, "Annual Review of the Sustainable Water Supply" as part of the basis for determining available water supplies for the Staples Ranch project. Because Zone 7 issues a sustainable water supply report every year in April, the Dublin San Ramon Services District (DSRSD) states that the Final EIR should update and reference Zone 7's "Annual Review of the Sustainable Water Supply" (Annual Review) for 2008.

The Draft EIR concluded there would be water available for this project based on a SB 610 Water Supply Assessment (WSA) approved by the City in December 2007. The WSA relied upon current information provided by Zone 7 that stated that Zone 7 had 87,500 acre-feet annually (AFA) of long-term sustainable water supply available to serve the buildout of the communities within Zone 7's service area. The 87,500 AFA had several components, namely, the State Water Project (SWP) (60,900 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), groundwater safe yields (13,400 AFA), and recycled water (1,900 AFA). The WSA also identified a number of other sources of water available for reliability purposes, e.g., a total of 65,000 AF from the Semitropic Water Storage District and 10,000 AFA from the Cawelo Water Storage District. Zone 7 anticipates pump back of approximately 8,700 AFA from Semitropic Water Storage District and approximately 10,000 AFA from Cawelo Water Storage District during drought years.

The 2008 Annual Review presents two main points that may have important bearing on this project: First, recent court rulings related to endangered species in the Delta have mandated reduced pumping of water from the Delta. As a result, SWP future average delivery to Zone 7 has been reduced from 60,900 AFA to 53,200 AFA and the total sustainable water supply reduced from 87,500 AFA to 81,200 AFA. Second, the report states that based on sustainable supplies of 81,200 AFA, Zone 7 can meet customer demands through 2015.

As previously stated, the 2008 Annual Review indicates that its long-term sustainable water supply is now 81,200 AFA. The 81,200 AFA presented in the 2008 Annual Review has several supply components, namely, SWP (53,200 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), safe groundwater yields (13,400 AFA) and recycled water (3,300 AFA). Based on the 81,200 AFA, this Annual Review observes that if Zone 7 demands continue to rise and if there are no improvements in the current restrictions in Delta pumping, Zone 7 projects a sufficient sustainable supply of water through 2015. The 2008 Annual Review acknowledges that Zone 7 could take a total of 5,000 AFA from the Byron Bethany Irrigation District; however, for conservative water supply planning purposes, Zone 7 chooses to use 2,000 AFA per year. In terms of recycled water supplies, Zone 7 expects to increase recycled water use to approximately 3,300 AFA.

Although the SWP amount was reduced in 2008, recycled water supplies were increased by 1,500 AFA and are expected to continue to increase over time. Furthermore, the WSA

indicates that in 2030 the Chain of Lakes will provide an additional 3,000 AFA of sustainable water, but that amount was not reflected as part of the WSA's 87,500 nor in the Zone 7 2008 report. Additionally, although the WSA table of sustainable water identified only 2,000 AFA from the Byron Bethany Irrigation District, the text of the WSA, as well as the Zone 7 2008 report, provides that Zone 7 contractually has the right to supply up to additional 3,000 AFA from Byron Bethany. Finally, although the WSA table of sustainable water does not identify any out of basin groundwater banking supplies, the WSA text provides 8,700 AFA from Semitropic Water Storage District and 10,000 AFA from the Cawelo Water Storage District, respectively, to Zone 7 during drought years for water reliability purposes.

The WSA concludes that if Zone 7 has 87,500 AFA available, the water demands of this project could be met. Although Zone 7 is taking an understandably conservative approach in identifying only 81,200 AFA of sustainable water, based on the information in the WSA, supported by the 2008 Zone 7 report, it is reasonable to conclude that in any given year, Zone 7 will have at least 81,200 AFA available for its customers, including the proposed project. Furthermore, the WSA determined that consumer conservation could further alleviate demand pressure on Zone 7 supplies. The following information is from page 7-4 of the WSA.

Due to Zone 7's long-term success of delivery of water to all customers and commitment to continue to serve treated water to all retailers, when SWP curtailments occur, Zone 7 has supply flexibility through increased groundwater pumping, surface water transfers back and from CSWD and STWSD to continue to meet all demands. In addition, Zone 7, the City of Pleasanton, DSRSD and the CWSC of Livermore, could pump additional local groundwater during drought, emergency or other surface supply reductions to meet demands in the future. Furthermore, as presented in Section 5 consumers and retailers could effectively reduce demands by 10 or 25 percent to relieve demand pressure on Zone 7 supplies. It is reasonable to assume, based on the consumer demand reductions in 1992 that Zone 7 customers would again cutback on per-capita use and reduce demands by up to 25 percent.¹

Finally, although it is expected that this project would be built out by 2015 (the Zone 7 2008 report raises concerns about providing sustainable water to customers thereafter), the City's standard conditions of approval provide that the City does not guarantee the availability of water to serve a project and if adequate water is not available, then no building permits will be issued. That potential limitation would also be reflected in the development agreement. In addition, to the extent that the CLC project provides affordable senior housing, the City has a policy that such uses have a priority for water (and sewer). That will be reflected in the conditions of approval and the development agreement as well.

¹ Only voluntary stages were implemented from the City's drought ordinance. In 1991 and 1992 the City experienced a high level of customer cooperation. 2002 City of Pleasanton, Urban Water Management Plan, page 10-4.

May 2010

3. Dublin San Ramon Services District (letter dated November 23, 2009)

- 3.1 The commenter agrees with the assessment regarding the adequacy of wastewater treatment capacity. Since this comment agrees with the assessment, no further comment is necessary.
- 3.2 The commenter requests that the SEIR document include the possibility that regulatory or judicial decisions may affect the volumes of water from the State Water Project that Zone 7 has available for delivery.

The Draft Stoneridge Drive Specific Plan Amendment/Staples Ranch EIR (dated April 2008) concluded there would be water available for this project based on a SB 610 Water Supply Assessment (WSA) approved by the City in December 2007. The WSA relied upon current information provided by Zone 7 stating that Zone 7 had 87,500 acre-feet annually (AFA) of long-term sustainable water supply available to serve the buildout of the communities within Zone 7's service area. The 87,500 AFA had several components, namely, the State Water Project (SWP) (60,900 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), groundwater safe yields (13,400 AFA), and recycled water (1,900 AFA). Not including groundwater safe yields (13,400 AFA) and recycled water supply (1,900 AFA), the sustainable water supply was 72,200 AFA in 2007. The WSA also identified a number of other sources of water available for reliability purposes, e.g., a total of 65,000 AFA from the Semitropic Water Storage District and 10,000 AFA from the Cawelo Water Storage District. Zone 7 anticipated pump back of approximately 8,700 AFA from Semitropic Water Storage District and approximately 10,000 AFA from Cawelo Water Storage District during drought years.

The Stoneridge Drive Specific Plan Amendment/Staples Ranch Final EIR (dated February 2009) concluded that the Zone 7 2008 Annual Review presented two main points that may have important bearing on this project: First, recent court rulings related to endangered species in the Delta have mandated reduced pumping of water from the Delta, and climate change effects (e.g., earlier snowmelt in the Sierras) may impact deliveries. As a result, SWP future average delivery to Zone 7 has been reduced from 60,900 AFA to 53,200 AFA and the total sustainable water supply reduced from 87,500 AFA to 81,200 AFA (a reduction to 64,500 AFA if groundwater safe yields and recycled water are not included). Second, the 2008 Annual Review stated that based on sustainable supplies of 81,200 AFA, Zone 7 can meet customer demands through 2015.

The 2009 Annual Review conclusions are similar to those of 2008. SWP future average delivery to Zone 7 is the same, 53,200 AFA (although the actual SWP delivery to Zone 7 in 2008 was 52,500 AF). Not including groundwater safe yields and recycled water, the total sustainable water supply was 64,500 AFA in 2008 and 62,500 AFA in 2009 (notably, the study in 2009 includes a new reduction of 2,000 AFA for storage and operational losses).

The Zone 7 2009 Annual Review indicates that Zone 7's long term sustainable water supply is now 62,500 AFA (not including groundwater safe yields and recycled water). The 62,500

AFA presented in the 2009 Annual Review has several supply components, namely, SWP (53,200 AFA), Lake Del Valle (9,300 AFA), Byron Bethany Irrigation District (2,000 AFA), minus storage and operational losses (2,000 AFA). Based on the 62,500 AFA, this Annual Review observes that if Zone 7 demands continue to rise and if there are no improvements in the current restrictions in Delta pumping, Zone 7 projects a sufficient sustainable supply of water through 2014.

Although the SWP amount was reduced from 2007 to 2009, recycled water supplies increased from 1,900 AFA in 2007 to 3,600 AFA in 2009 and are expected to continue to increase over time. Furthermore, the WSA indicates that in 2030 the Chain of Lakes will provide an additional 3,000 AFA of sustainable water, but that amount was not reflected as part of the WSA's 87,500 AFA nor in the Zone 7 2009 Annual Review. Additionally, although the WSA table of sustainable water supply identified only 2,000 AFA from the Byron Bethany Irrigation District, the text of the WSA, as well as the Zone 7 2009 Annual Review, provides that Zone 7 contractually has, potentially, the right to supply up to an additional 3,000 AFA from Byron Bethany. Zone 7 also has water available to it via the Yuba Accord, which had 159 AFA available in 2009. Finally, although the WSA table of sustainable water does not identify any out of basin groundwater banking supplies, the WSA text provides 8,700 AFA from Semitropic Water Storage and 10,000 AFA from the Cawelo Water Storage District, respectively, to Zone 7 during drought years for water reliability purposes.

The WSA concludes that current estimated 2030 "Buildout Demand" for treated and untreated Zone 7 water is 69,370 AFA, and that the 2007 Zone 7 long-term sustainable water supply was 87,500 AFA. Although Zone 7 is taking an understandably conservative approach in now identifying only 62,500 AFA of sustainable water, based on the information in the WSA, supported by the 2009 Zone 7 Annual Review, it is reasonable to conclude that in any given year, Zone 7 will have at least 62,500 AFA available (from the SWP, Lake Del Valle, and Byron Bethany) and, as noted above, additional supplies (from recycled water use, the Chain of Lakes, Byron Bethany, the Yuba Accord, semitropic water storage, and the Cawelo Water Storage District) are reasonably likely to be available for its customers, including the proposed project. Furthermore, the WSA determined that consumer conservation could further alleviate demand pressure on Zone 7 supplies.

Although it is expected that this project would be built out by 2014 (the year through which Zone 7 projects a sufficient sustainable supply of water), the Zone 7 2009 Annual Review raises concerns about providing sustainable water to customers thereafter. It should be noted, however, that the 69,370 AFA reflects adequate water to serve the 2030 buildout of the General Plans of the Tri-Valley communities; this project's projected water use—350 AFA—is a very small portion of that larger amount. Moreover, to the extent that the CLC project provides affordable senior housing, the City has a policy that such uses have a priority for water.

The City also notes that it has agreed to incorporate the use of recycled water for the project's landscaping on the assumption that an agreement can be reached between the City and the Dublin San Ramon Services District (DSRSD) for that purpose. Such agreement would allow

the City to tie into DSRSD's recycled water infrastructure under El Charro Road. DSRSD's recycled water project was subjected to extensive environmental review in the San Ramon Valley Recycled Water Program Final EIR (SCN 960130208) and is operated under RWQP Order 96-011. The project also operates under the General Water Reuse Requirements issued by the RWCQB to DSRSD on January 7, 2005. These requirements ensure that a user's use of recycled water will not lead to significant impacts. Because the project's recycled water infrastructure will be installed concurrently with other utilities during project construction, there will be no construction related impacts associated with the use of recycled water that have not already been disclosed and mitigated in either the Stoneridge Drive Specific Plan Amendment/Staples Ranch Final EIR or SEIR.

- 3.3 Except as discussed in comment 3.2, the commenter finds no impacts related to the project or the ability to accommodate existing water commitments at this time. Since this comment is in agreement and a response to comment 3.2 is provided, no further comment is necessary.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100 NORTH CANYONS PARKWAY LIVERMORE, CA 94551 PHONE (925) 454-5000 FAX (925) 454-5723

MEMORANDUM

Date: May 19, 2010
To: Jill Duerig, General Manager
From: Kurt Arends, Assistant General Manager
Jarnail Chahal, Acting Principal Engineer
Brad Ledesma, Associate Engineer

Subject: Annual Review of Sustainable Water Supply for Zone 7 Water Agency

On August 18, 2004, Zone 7 Water Agency (Zone 7) adopted the Reliability Policy for Municipal and Industrial (M&I) Water Supplies (Resolution 04-2662).¹ Resolution 04-2662 requires that Zone 7 staff complete an annual review of sustainable water supplies; the purpose of this memorandum is to comply with this requirement.

The review this year covered the following:

- Projected Water Demands: Next Five Years
- Available Water Supplies to Zone 7 at the Beginning of 2010
- Comparison of Supply and Demand: Next Five Years
- Programs Necessary to Meet Water Demands

The review completed in this memorandum indicates that Zone 7 has sufficient water supplies to meet projected water demands over the next five years with or without additional water conservation.

However, Zone 7's long-term water supply is at risk and subject to a very uncertain future due to recent court rulings, biological opinions associated with the Sacramento-San Joaquin Delta, and climate change. In response, Zone 7 staff is developing a Water System Master Plan update (WSMP) and revising the Urban Water Management Plan (UWMP) to address long-term water supply programs and projects necessary to meet projected water demands through buildout of adopted general plans.

PROJECTED WATER DEMANDS: NEXT FIVE YEARS

Every year Zone 7 obtains water demand projections from all of its customers for the next five years – Table 1 summarizes these projections for 2010 to 2014 without additional water conservation.² As shown in Table 1, Zone 7's total water demands are projected to increase by 3.7 percent between 2010 and 2014, while water demands for

¹ A copy of Resolution 04-2662 is provided as Attachment A.

² Water conservation associated with Senate Bill SBX7-7 is discussed in subsequent sections.

Zone 7's untreated customers are expected to remain constant.

As a comparison, Zone 7 staff previously projected that water demands would increase by approximately 8 percent between 2009 and 2013.³ This reduced projected water demand likely reflects recent water conservation efforts in the Livermore-Amador Valley associated with the current drought and the economic slowdown.

Table 1. Projected Zone 7 Water Demands: Next Five Years, acre-feet^(a)

Type	2010	2011	2012	2013	2014
M&I ^(b,c,d)	46,200	46,600	47,100	47,500	48,100
Untreated	4,600	4,600	4,600	4,600	4,600
Total	50,800	51,200	51,700	52,100	52,700

^(a) Demands were rounded to the nearest 100 acre-feet.

^(b) M&I = Municipal and Industrial.

^(c) Demands include California Water Service Company, Dublin San Ramon Services District, City of Livermore, City of Pleasanton, Zone 7's direct retail customers, and Zone 7's unaccounted-for water.

^(d) Includes groundwater-pumping quota for Dublin San Ramon Services District and unaccounted-for water.

Senate Bill SBX7-7 (20 Percent Reduction by 2020)

In November 2009, the California legislature passed Senate Bill SBX7-7 (SB 7). SB 7 created a framework for future planning and actions by water supply retailers and agricultural water suppliers to reduce California's water use. More specifically, SB 7 required water supply retailers to reduce statewide per capita potable water consumption 20 percent by 2020.⁴

Although Zone 7 is not subject to the requirements of SB 7 because it is a wholesale water agency, Zone 7 fully supports the existing and planned efforts of the four water supply retailers within our service area to comply with this new law. Additionally, Zone 7 is working with its own direct and untreated water customers to reduce water demands.

Zone 7 is also working with the water supply retailers to better define existing water conservation tracking methods as part of the Valley Water Conservation Task Force and determine projected water conservation savings to meet SB 7 requirements as part of the UWMP update and the WSMP. Unfortunately, projected water conservation savings associated with SB 7 were not available from each of the water supply retailers for this memorandum.

Consequently, for planning-level purposes in this memorandum, Zone 7 staff developed preliminary estimates of potential water conservation savings using the criteria specified in SB 7 and data collected from each of the water supply retailers as part of the UWMP. These planning-level estimates were shared with the water supply retailers in February and April 2010, and are presented in Table 2 below.

Table 2 also summarizes the total projected water demand after including potential water conservation savings estimated by Zone 7 staff. As shown in Table 2, projected water demands could remain relatively constant between 2010 and 2014 depending on the

³ Zone 7, 2009. Annual Review of Sustainable Water Supply for Zone 7 Water Agency.

⁴ The baseline from which to save 20 percent by 2020 is different for each water supply retailer depending on historical data and use of recycled water.

success of regional conservation efforts.

Table 2. Projected Zone 7 Water Demands with Water Conservation, acre-feet^(a)

Type	2010	2011	2012	2013	2014
Total Water Demand	50,800	51,200	51,700	52,100	52,700
Additional Water Conservation	(0)	(500)	(1,000)	(1,600)	(2,100)
Revised Water Demand	50,800	50,700	50,700	50,500	50,600

^(a) Demands were rounded to the nearest 100 acre-feet.

^(b) Water conservation is based on preliminary estimates determined by Zone 7 staff and reviewed by Zone 7's Retailers; these estimates will likely change as the Retailers better refine their own estimates.

For planning purposes in this review, Zone 7 staff compared projected water supplies with projected water demands, with and without water conservation, over the next five years.

AVAILABLE WATER SUPPLIES TO ZONE 7 AT THE BEGINNING OF 2010

Zone 7 has developed a robust water supply system consisting of imported surface water, local runoff, groundwater recharge activities, and non-local storage.⁵ This diverse water supply system allows Zone 7 to store excess water during average and wet years, and draw on these reserves during dry years to create a sustainable and reliable water supply for the Livermore-Amador Valley.

The purpose of this section is to review the water supplies, including contracted supply and storage, available to Zone 7 at the beginning of 2010. Attachment B provides a more detailed description of all of Zone 7's water supplies and their status.

Projected Yield from Contracted Water Supplies in 2010

Each year Zone 7 receives water supply from its water rights permit for diversions from Arroyo del Valle, and its contracts with the Department of Water Resources (DWR) for State Water Project (SWP) water, Byron Bethany Irrigation District (BBID), and DWR for Yuba Accord Water. The exact quantity of water supply available through these contracts is unknown at the beginning of the year because the yield depends on many factors, including local precipitation and snowfall in the Sierras.

For planning-level purposes, Zone 7 staff estimates the projected yield from these water supplies at the beginning of the year, along with an estimate of the long-term average yield. Table 3 presents the projected yield in 2010 and the long-term average yield based on a review of actual deliveries, rainfall, DWR projections from January to May 2010, and a review of any new planning-level documents.⁶ Table 3 also includes the long-term operational losses associated with artificial recharge in the local groundwater basin and participation in non-local groundwater banking programs.⁷

As shown in Table 3, the projected yield in 2010 from Zone 7's existing contracted water supplies is approximately 44,800 acre-feet,⁸ while the long-term average yield is

⁵ Additional information on each of Zone 7's water supply and storage components is available in Attachment B.

⁶ New planning-level documents include DWR's Draft 2009 Reliability Report.

⁷ Operational losses obtained from analysis completed for: Zone 7, 2009. Water System Update. November 18.

⁸ Remaining water demand will be met with stored water supply as planned-for during drought conditions.

projected to be approximately 55,050 acre-feet after considering operational losses. Table 3 also indicates that deliveries from DWR through the SWP still makeup a majority of all Zone 7's supplies.

Table 3. Projected Yield from Existing Contracted Water Supplies, acre-feet

Source ^(a)	Available in 2010		Long-term Average	
	Yield	% of Total	Yield	% of Total
Arroyo del Valle Runoff	6,500	14.5 %	7,300 ^(b)	12.6 %
Byron Bethany Irrigation District	5,000	11.2 %	2,000	3.5 %
State Water Project ^(c)	32,300	72.1 %	48,400 ^(d)	83.5 %
Yuba Accord (via DWR)	1,000	2.2 %	250	0.4 %
Subtotal	44,800	100.0 %	57,950	100.0 %
Operational Losses ^(e)	0	0.0 %	(2,900)	5.0%
Total	44,800	100.0 %	55,050	95.0%

(a) Attachment B provides additional detail on each contract.

(b) Long-term average yield from Arroyo Valle was reduced to 7,300 acre-feet from 9,300 acre-feet to better account for required allocations between Zone 7 and Alameda County Water District.

(c) 2010 Yield is based on 40% (current 2010 allocation) of Zone 7's Table A amount of 80,619 acre-feet.

(d) Long-term average yield is based on 60% of Zone 7's Table A amount of 80,619 acre-feet, as presented in DWR's Draft 2009 Reliability Report.

(e) Operational losses include the losses associated with artificial recharge in the groundwater basin, and putting water into either Semitropic or Cawelo. Operational losses obtained from analysis completed for: Zone 7, 2009. Water System Update. November 18.

Available Storage at the Beginning of 2010

Zone 7 currently stores water in various storage facilities or programs to help meet water demands during acute or prolonged droughts. Table 4 summarizes the total accumulated storage available to Zone 7 over the next five years, the maximum storage available in 2010, and minimum storage available between 2011 and 2014.⁹ A more detailed description of Zone 7's available storage is provided in Attachment B.

Table 4. Available Storage in 2010, acre-feet

Storage Facility or Program	Total Accumulated Storage ^(a)	Storage Available in 2010	Minimum Annual Storage between 2011 and 2014
Main Groundwater Basin ^(b)	74,000	20,200	14,000
Lake Del Valle Carryover	4,900	4,900	10,000
State Water Project Carryover	20,500	20,500	
Semitropic ^(c)	78,100	10,000	9,100
Cawelo	5,000	5,000	0
Total	182,500	60,600	33,100

(a) Accumulated storage estimate is through April 2010.

(b) As the available storage decreases in the main basin, the amount of groundwater available in any given year also decreases due to well locations and defined historic lows. For 2010, 20,200 acre-feet was used as a conservative estimate for planning-level purposes in this memorandum.

(c) 2010 availability includes pump back of 9,100 acre-feet, and potential exchange water of approximately 900 af assuming the SWP delivery remains at 40% of Zone 7's Table A amount.

⁹ Generally, the minimum annual storage is based on a certain level of management, including artificial recharge of the main groundwater basin and decisions to carry over water in both the SWP and within Lake Del Valle.

COMPARISON OF SUPPLY AND DEMAND: NEXT FIVE YEARS

Table 5 compares available water supplies in 2010 to projected water demands over the next five years. For planning-level purposes in this memorandum, long-term average supplies and minimum storage available over the next five years were used to compare with projected water demands between 2011 and 2014. As shown in Table 5, Zone 7's existing water supply exceeds projected water demands over the next five years, with or without water conservation. Additional analysis also showed that Zone 7 can meet projected water demands during Single Dry and Multiple Dry conditions over the same period.¹⁰

Table 5. Comparison of Supply and Demand: Next Five Years

Component		2010	2011	2012	2013	2014
Without Conservation	Water Supply	44,800	55,050	55,050	55,050	55,050
	Available Storage	60,600	33,100	33,100	33,100	33,100
	Water Demand ^(a)	(50,800)	(51,200)	(51,700)	(52,100)	(52,700)
	Total	54,600	36,950	36,450	36,050	35,450
With Conservation	Water Supply	44,800	55,050	55,050	55,050	55,050
	Available Storage	60,600	33,100	33,100	33,100	33,100
	Water Demand ^(a)	(50,800)	(50,700)	(50,700)	(50,500)	(50,600)
	Total	54,600	37,450	37,450	37,650	37,550

^(a) Includes both M&I and Untreated water demands.

PROGRAMS NECESSARY TO MEET WATER DEMANDS

The review completed as part of this memorandum indicates that Zone 7 has sufficient water supplies to meet projected water demands over the next five years with or without additional water conservation. However, as demonstrated in previous water supply analyses completed by Zone 7 staff, Zone 7's water supply is at risk and subject to a very uncertain future due to recent court rulings, biological opinions associated with the Sacramento-San Joaquin Delta, and climate change.¹¹

In response to these findings, Zone 7 staff is updating its Urban Water Management Plan (UWMP) and diligently working with Zone 7's water supply retailers to develop a Water System Master Plan (WSMP) that will provide a flexible roadmap to meet the water supply needs of the Livermore-Amador Valley through buildout of adopted general plans. Some of the possible additional water supplies currently being evaluated as part of the WSMP include, but are not limited to the following:

- Delta habitat, conservation, and conveyance program (i.e., long-term "Delta Fix")
- Winter re-operation of Lake Del Valle
- Increase yield from existing contract with Byron Bethany Irrigation District

¹⁰ Original analysis is from: Zone 7, 2009. Water System Update. November 18. Information was augmented with data from the Draft 2009 Reliability Report provided by DWR.

¹¹ Zone 7, 2009. Water System Update. November 18.

- Purchase additional water from the SWP
- Los Vaqueros Reservoir participation
- Non-SWP purchase or transfer
- Arroyo Mocho water rights
- Arroyo Las Positas water rights
- Increase yield from existing Arroyo del Valle water rights
- Local rainfall capture
- Recycled water
- Desalination
- Additional groundwater demineralization
- Fringe basin development
- Reduce Water Losses (e.g., unaccounted-for water)
- Increased groundwater recharge capacity

Zone 7 Water Agency is committed to providing a reliable supply of high quality water to the Livermore-Amador Valley, and the WSMP, in conjunction with our UWMP update, are key programs necessary to meet this goal in the face of an uncertain future.

ATTACHMENT A: RELIABILITY POLICY

ZONE 7
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

BOARD OF DIRECTORS

RESOLUTION NO 04-2662

INTRODUCED BY DIRECTOR MARCHAND
SECONDED BY DIRECTOR CONCANNON

Reliability Policy for Municipal & Industrial Water Supplies

WHEREAS, the Zone 7 Board of Directors desires to maintain a highly reliable Municipal and Industrial (M&I) water supply system so that existing and future M&I water demands can be met during varying hydrologic conditions; and

WHEREAS, the Board has an obligation to communicate to its M&I customers and municipalities within its service area the ability of the Zone's water supply system to meet projected water demands.

WHEREAS, the Board on May 15, 2002 adopted Resolution No. 02-2382 setting forth its Reliability Policy for Municipal & Industrial Water Supplies; and

WHEREAS, the Zone's current water supply policy includes a provision for a valley-wide groundwater production capability to meet 75% of valley-wide M&I demand in the event of an outage of the South Bay Aqueduct; and

WHEREAS, the Board desires to revise the Reliability Policy to include all Zone 7 water supply facilities and to clarify demand levels for planning purposes;

NOW, THEREFORE, BE IT RESOLVED that the Board hereby rescinds Resolution No. 02-2382 adopting the May 15, 2002 Reliability Policy for Municipal & Industrial Water Supplies; and

BE IT FURTHER RESOLVED that the Board hereby adopts the following policy goals regarding reliability¹ to guide the management of the Zone's M&I water supplies as well as its Capital Improvement Program (CIP)²:

- GOAL 1. Meet 100% of its treated water customers water supply needs in accordance with Zone 7's most current Contracts for M&I Water Supply, including existing and projected demands for the next 20 years as specified in Zone 7's Urban Water Management Plan, (UWMP), which will be coordinated with Zone 7's M&I water Contractors. Zone 7 will endeavor to meet this goal during an average water year³, a single dry water year⁴, and multiple dry water years⁵, and

GOAL 2: Provide sufficient treated water production capacity and infrastructure to meet at least 75% of the maximum daily M&I contractual demands should any one of Zone 7's major supply, production or transmission facilities experience an extended unplanned outage.

BE IT FURTHER RESOLVED that to ensure that this Board policy is carried out effectively, the Zone 7 General Manager will provide a water supply status report to the Board every five years with the Zone 7 Urban Water Management Plan that specifies how these goals can be, or are being, achieved.

If the General Manager finds that the goals might not be met, then the Board will hold a public hearing within two months of the General Manager's finding to consider remedial actions that will bring the Zone into substantial compliance with the stated reliability goals. Remedial actions may include, but are not limited to, voluntary conservation or mandatory rationing to reduce water demands, acquisition of additional water supplies, and/or a moratorium on new water connections. After reviewing staff analyses and information gathered at the public hearing, the Board shall, as expeditiously as is feasible, take any additional actions that are necessary to meet the reliability goals during the following five-year period; and

BE IT FURTHER RESOLVED that the Zone 7 General Manager shall prepare an Annual Review of the Sustainable Water Supply Report which includes the following information:

- (1) An estimate of the current annual average water demand for M&I water as well as a five-year projection based on the same information used to prepare the UWMP and CIP;
- (2) A summary of available water supplies⁶ to Zone 7 at the beginning of the calendar year;
- (3) A comparison of current water demands with the available water supplies; and
- (4) A discussion of water conservation requirements and other long-term water supply programs needed to meet Zone 7 M&I water demands for a single dry water year and multiple dry years, as specified in the Zone's UWMP.

A summary of this review will be provided to M & I customers.

Definitions

¹**Reliability**—the ability of a water supply system to provide water during varying hydrologic conditions without the need for reductions in water use.

²**Capital Improvement Program (CIP)**—the CIP is the Zone's formal program for developing surface and ground water supplies, along with associated infrastructure, including import water conveyance facilities, surface water treatment plants, groundwater wells, and M&I water transmission system to meet projected water demands.

³Average water year—the statistical average quantity of water from all of the water supplies available to Zone 7 on a contractual or legal basis (e.g., surface water runoff to Del Valle reservoir), based on the historical hydrologic records available to Zone 7.

⁴Single dry water year—for the purposes of meeting the requirements of the UWMP, the Zone 7 staff will identify and justify the selection of a calendar year from the historic record that represents the lowest yield from all normally contracted or legally available supplies.

⁵Multiple dry water years—for the purposes of meeting the requirements of the UWMP, the Zone 7 staff will identify and justify the selection of three or more consecutive dry years from the historic record that represent the lowest yields from all normally contracted or legally available supplies.

⁶Available water supplies consist solely of (1) water supplies that the Zone 7 has contracted for (e.g., listed under Schedule A of the State Water Contract, dry-year water options, special contracts with other water districts, etc.) and (2) water actually stored in surface and subsurface reservoirs.

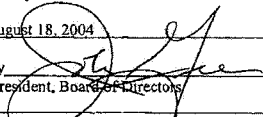
ADOPTED BY THE FOLLOWING VOTE:

AYES: DIRECTORS CONCANNON, GRECI, KOHNEN, MARCHAND, QUIGLEY

NOES: NONE

ABSENT: DIRECTORS KALTHOFF, STEVENS

ABSTAIN: NONE

I certify that the foregoing is a correct copy of a resolution
Adopted by the Board of Directors of Zone 7 of Alameda
County Flood Control and Water Conservation District on
August 18, 2004
By 
President, Board of Directors

Vice

ATTACHMENT B: ZONE 7'S EXISTING WATER SUPPLY CONTRACTS AND STORAGE

Over the past few decades, Zone 7 Water Agency (Zone 7) has developed a robust water supply system consisting of local water rights, water supply contracts, and local and non-local storage; each is discussed in more detail below.

LOCAL WATER RIGHTS: ARROYO DEL VALLE RUNOFF

Zone 7, along with Alameda County Water District (ACWD), holds a water right permit¹² to divert runoff from Arroyo del Valle, and stores this local runoff in Lake Del Valle under operating agreements with the Department of Water Resources (DWR). All inflow to Lake Del Valle, after accounting for prior rights, is equally divided with ACWD.

A review of historic runoff from Arroyo del Valle from 1913 to 2009 indicates that the total average inflow is approximately 24,000 acre-feet, of which, approximately 11,500 acre-feet is available for Zone 7. However, due to operational limitations associated with Lake Del Valle, Zone 7's current use of this inflow is limited to approximately 7,300 acre-feet. This supply will increase to approximately 7,700 acre-feet as water demands continue to increase within Zone 7's service area.¹³ The remaining supply (3,800 acre-feet) is currently lost as flood releases.

However, as discussed in more detail in subsequent sections, existing gravel quarry operations will create a series of gravel quarry pits overlying the main groundwater basin; this will provide Zone 7 with approximately 100,000 acre-feet of storage capacity located over the Main Groundwater Basin between 2010 and 2030. This local storage will provide Zone 7 with the ability to capture these additional flood releases and increase Zone 7's long-term average yield from Arroyo del Valle runoff to 11,500 acre-feet.

WATER SUPPLY CONTRACTS

Zone 7 currently has contracts with the Department of Water Resources (DWR) and Byron Bethany Irrigation District (BBID) to augment existing local runoff with imported surface water supplies. These contracts are discussed below.

Contracts with DWR

Zone 7 currently holds two contracts with DWR. One contract is for State Water Project (SWP) water, while the other is associated with the Yuba Accord; both are discussed below.

State Water Project (SWP)

Zone 7 currently has a long-term contract¹⁴ with DWR for 80,619 acre-feet of Table A amount, which represents Zone 7's maximum annual entitlement through this contract. Each year, DWR only allocates a portion of this annual entitlement depending on

¹² Permit 11319 (Application 17002).

¹³ Yield from Arroyo Valle reduced to reflect 50/50 allocation of inflow between Zone 7 and Alameda County Water District.

¹⁴ Zone 7's contract with DWR expires in 2036 with an option to renew for 75 years.

hydrologic conditions, DWR's operation of the State Water Project (SWP), and legal and environmental constraints.

Prior to 2007, DWR indicated that the long-term average yield from the SWP was approximately 76% of Zone 7's Table A amount, or approximately 61,300 acre-feet annually.¹⁵ However, in 2007, DWR downgraded the water delivery reliability of the State Water Project due to federally imposed pumping restrictions – the restrictions were put in place due to concerns over declines in pelagic organisms in the Delta, primarily the decline of the Delta Smelt.

In August 2008, DWR published the final State Water Project Delivery Reliability Report 2007, which officially reduced the projected long-term average yield from the SWP to 66% of Zone 7's Table A amount, or approximately 53,200 acre-feet annually; this action reduced Zone 7's sustainable supply by 8,100 acre-feet (61,300 minus 53,200 acre-feet).

In January 2009, DWR released a Draft of the State Water Project Delivery Reliability Report 2009 to help quantify the impact of new biological opinions for species in the Delta (e.g., Salmon) and new studies completed on climate change. This draft report now indicates that the long-term average yield from the SWP is 60% of Zone 7's Table A amount, or approximately 48,400 acre-feet annually. This new estimate from DWR has reduced Zone 7's sustainable supply by an additional 4,800 acre-feet; consequently, Zone 7 has lost a total of 12,900 acre-feet of sustainable supply over the past three years.

As DWR refines these preliminary results, the projected yield could further decline; however, these results represent the most current projections available to date, and were incorporated into Zone 7 staff's review of sustainable supply.

Article 21 Water and Turn-back Water

As a contractor of the SWP, Zone 7 also has access to Article 21 (formerly called surplus water) and Article 56d water (turn-back water). Zone 7 generally incorporates any Article 21 water into its long-term average supplies; however, the projected yield from Article 21 water is very low due to pumping restrictions in the Delta, and was not included in this year's review.

Article 56d is a provision that allows contractors with excess water to sell their water to contractors that have water needs. Typically, there is very little water available in dry years but more available in wet years. However, Zone 7 staff does not expect a significant amount of Article 56d water to be available in the future until there is a resolution to existing pumping restrictions in the Delta and therefore, Article 56d water was not included in this year's review.

Carryover

As a State Water Contractor, Zone 7 has the ability to carry water from one year to the next in San Luis Reservoir – also called Article 56(c) water. As part of its operating agreement with DWR, Zone 7 also has the ability to carry inflow from Arroyo del Valle from one year to the next. Zone 7 typically tries to carry over 10,000 to 15,000 acre-feet of water to help year-to-year operations and mitigate the potential impacts of acute drought conditions.

¹⁵ DWR, 2005. The State Water Project Delivery Reliability Report 2005.

Yuba Accord Supply

In 2008, Zone 7 entered into an agreement to purchase additional water from DWR as part of the Yuba Accord; the contract expires in 2025. The contract specifies four different conditions (four components) for which Zone 7 can obtain water. The first component is not available to Zone 7, while the second and third components are available during drought conditions. The fourth component is available when Yuba County Water Agency has determined it has water supplies available to sell.

The annual amount of water available in dry years is small - only 159 acre-feet was available in 2009, and only 1,000 are-feet will likely be available in 2010. As Zone 7 gains experience using this new contract and is able to better define potential long-term yields, then Zone 7 may incorporate more of it into our sustainable supply. For planning-level purposes, Zone 7 assumed that the long-term average yield was 250 acre-feet for this year's review.¹⁶

Byron Bethany Irrigation District (BBID)

BBID diverts water from the Sacramento-San Joaquin Delta (Delta) pursuant to a "Notice of Appropriation of Water" dated May 18, 1914.¹⁷ Zone 7 entered into a long-term¹⁸ contract with BBID for up to 5,000 acre-feet annually of water supply under this appropriation.¹⁹ The current contract expires in 2013; however, Zone 7 is currently renegotiating this contract, and expects to finalize an agreement to extend the term with BBID by the end of this year.

Although Zone 7 could request up to 5,000 acre-feet per year, and did so this year, Zone 7 staff uses 2,000 acre-feet as a conservative estimate of the long-term average yield from this source because additional analysis is required to justify this water is available during all hydrologic conditions.²⁰ Water purchased from BBID via this contract is delivered to Zone 7 via the South Bay Aqueduct for use in our service area.

LOCAL STORAGE

Zone 7 has local storage available in the Main Groundwater Basin and in two quarry gravel pits (Lake I and Cope Lake) that overlie the Main Groundwater Basin. Both are discussed below.

Main Groundwater Basin

Zone 7's service area overlies the Livermore Valley Groundwater basin (Basin); the Main Basin is a portion of the Livermore Valley Groundwater Basin that contains the highest yielding aquifers and best quality groundwater.²¹ For Zone 7, the Basin is considered a storage facility and not a long-term water supply because Zone 7 does not have a groundwater pumping quota, and only pumps groundwater it artificially recharges.

¹⁶ The long-term average is based on varying the maximum yield of 676 acre-feet (only Components 2 and 3) during critically dry years to no water in wet years without considering Component 4 water.

¹⁷ Source: Mountain House Master Plan.

¹⁸ 15-year contract, renewable every five years.

¹⁹ The Zone 7 Board certified the Environmental Impact Report for this water supply in 1999.

²⁰ Zone 7 is currently reviewing the potential to increase projected long-term average yields from its contract with BBID as part of the Water System Master Plan update.

²¹ Zone 7, 2009. Annual Report for the Groundwater Management Program – 2008 Water Year. May.

Consequently, Zone 7 has actively managed the Basin for over 40 years, and administers conjunctive use programs that integrate both surface and groundwater supplies.²²

As part of its conjunctive use program, Zone 7 maintains groundwater levels above historic lows in the Main Basin through artificial recharge of SWP water to the arroyos for subsequent percolation and replenishment of existing aquifers.²³ Additionally, Zone staff established historic lows based on historical-low groundwater elevations in various wells in the Main Basin.²⁴ In general, the difference between water surface elevations when the Main Basin is full and water surface elevations when the Main Basin is at historic lows defines Zone 7's operational storage – operational storage is about 126,000 acre-feet based on Zone 7's experience operating the Main Basin.

Based on a review of current well capacities and discussions with Zone 7's Groundwater Protection and Projects section, Zone 7 has the ability to pump approximately 26,200 acre-feet over a one-year period. Additionally, for this planning-level review, Zone 7 staff included limits on annual groundwater pumping to ensure that water surface elevations remain above historic lows during a multiple dry year event.²⁵ The pumping limit used in the analysis (14,000 acre-feet) was based on preliminary modeling conducted by Zone 7 staff and assuming no artificial recharge activities.²⁶

Chain of Lakes – Lake I and Cope Lake

The Chain of Lakes (COL) is an area located between the cities of Pleasanton and Livermore, and refers to a series of ten mined out or active gravel quarry pits that have been or will be converted into surface water storage facilities and/or groundwater recharge basins once mining has been completed. The ten quarry pits or lakes are named Cope Lake, and Lakes A through I.

Although the Chain of Lakes will ultimately cover approximately 2,000 acres and store approximately 100,000 acre-feet of water, Zone 7 currently only owns Cope Lake and Lake I. Zone 7 expects to take ownership of Lake H sometime within the next five years, while the remaining lakes will be transferred to Zone 7 over the next 20 years. No additional storage or recharge capacity from the Chain of Lakes was assumed available to Zone 7 for this year's review.

NON-LOCAL STORAGE

In addition to local storage, Zone 7 also participates in two groundwater-banking programs with Semitropic Water Storage District (Semitropic) and Cawelo Water District (Cawelo). Each is discussed below.

Semitropic Water Storage District

Zone 7 has 78,000 acre-feet of groundwater banking storage available through Semitropic to augment water supplies during drought conditions. During non-drought periods,

²² Zone 7, 2009. Annual Report for the Groundwater Management Program – 2008 Water Year. May.

²³ Zone 7, 2009. Annual Report for the Groundwater Management Program – 2008 Water Year. May.

²⁴ Zone 7, 2009. Annual Report for the Groundwater Management Program – 2008 Water Year. May.

²⁵ An example multiple dry year event is the 6-year drought that occurred between 1987 and 1992.

²⁶ Zone 7 conducted a preliminary analysis using the calibrated groundwater model to determine the average annual pumping limit that maximizes the recovery of groundwater basin storage during a 6-year drought, assuming average conditions that existed between 1987 and 1992, and only with existing facilities.

Zone 7 can put up to 5,883 acre-feet annually into the Semitropic groundwater bank. During droughts, Zone 7 has the ability to request 9,100 acre-feet of pumpback and anywhere from 0 to 8,645 acre-feet of exchange water;²⁷ the availability of exchange water depends on projected SWP deliveries. For conservative planning-level purposes in this year's review, Zone 7 staff assumed that only pumpback capacity would be available between 2011 and 2014.

Cawelo Groundwater Banking Program

Zone 7 has 120,000 acre-feet of groundwater banking storage available with Cawelo to augment water supplies during drought conditions. During non-drought periods, Zone 7 can put 5,000 acre-feet annually into the bank.²⁸ During droughts, Zone 7 has the ability to request 10,000 acre-feet of pumpback. For conservative planning-level purposes in this year's review, Zone 7 staff assumed that no pumpback would be available from Cawelo between 2011 and 2014.

²⁷ The availability of exchange water depends on the allocation from the State Water Project.

²⁸ Zone 7 only gets storage credit for 50% of the water provided to Cawelo. Per the existing contract, Zone 7 can only send 10,000 acre-feet in any given year to Cawelo; therefore, the maximum contractual credit is 5,000 acre-feet.

ATTACHMENT 5

**TABLE 1
ZONE 7 HISTORICAL DELIVERIES TO THE CITY OF PLEASANTON (AFA)¹**

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
City of Pleasanton	9,769	10,712	6,517	9,434	11,570	10,250	13,984	13,989	13,035	11,440	13,082	13,560	14,662	14,744	14,367	15,614	14,553	14,911	15,756	15,803	13,915

¹ Source: Zone 7 Water Agency Retail Deliveries 1989-2009.



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551-9486 • PHONE (925) 454-5000

October 13, 2010

Planning Department
City of Pleasanton
PO Box 520
Pleasanton, CA 94566

**SUBJECT: Staples Ranch, PTR-8020
Staples Ranch, Pleasanton
Zone 7 Referral No. 09-019C**

Dear Plan Reviewer:

In response to your referral letter regarding the subject project, we offer the following comments:

Water Supply

As per our letters of August 26, 2009 and July 16, 2010, Zone 7 owns a 25-foot waterline easement along the northern edges of lots 1, 6 and 7. Please provide more refined development plans for review and comment as they become available. Any work which may interfere with Zone 7's use of its waterline or full enjoyment of its easement rights requires an encroachment permit to be obtained from Zone 7. Please contact Jaime Rios at (925) 454-5031 if you have any questions regarding this comment.

Zone 7 requests that all applicants investigate minimizing potable water demands through conservation and through the use of recycled water.

Groundwater Management

Our records indicate there is only one water supply well (3S/1E-3Q1) located within the project boundaries. If any other wells are found within the project limits, they should be reported to Zone 7. All unused or "abandoned" wells must be properly destroyed. Any planned new well, soil boring or well destruction must be permitted by Zone 7 before starting the work. There are currently no fees for the Zone 7 drilling permits. Well permit applications can be obtained by contacting Wyman Hong at extension 235 or can be downloaded from our web site at www.zone7water.com.

Please have the applicant check the site for the existence of abandoned septic tanks and drain lines. If they are found to exist on the parcel, they should be excavated and removed from the site prior to grading to eliminate the potential for them to act as conduits for contamination migration in the case of a future polluting event at the site. The County Health Services Agency is typically the administrating agency for septic tank removals in Alameda County. Their phone number is (510) 567-6700.

RECEIVED

OCT 18 2010

**CITY OF PLEASANTON
PLANNING DIVISION**

Planning Department
City of Pleasanton
10-13-10
Page 2

Flood Control

Zone 7 has an existing Flood Control facility, Line G, the Arroyo Mocho, which runs along the southern border of the project. Zone 7 previously provided comments in a letter of response to the Developmental Referral on June 24, 2010. With the exception of the comment regarding Section K-K, the comments remain valid and unanswered.

In addition, Zone 7 staff met with the City of Pleasanton staff and City's Engineering consultant, RJA, on September 17, 2010, to discuss Stoneridge Bridge design issues. At the meeting, it was determined that RJA would provide additional information pertaining to turning radii on and off the proposed Stoneridge Bridge to Zone 7 right-of-way. At that time, it had also been mentioned that channel hydraulics were being handled by another consultant, Schaaf & Wheeler, and that results would be forwarded to Zone 7 for review. Zone 7 has yet to receive any said information for review.

Developments creating new impervious areas within the Livermore-Amador Valley are subject to the assessment of the Development Impact Fee for Flood Protection and Storm Water Drainage. These fees are collected for Zone 7 by the local governing agency: 1) upon approval of final map for public improvements creating new impervious areas; and/or 2) upon issuance of a building or use permit required for site improvements creating new impervious areas. Fees are dependent on whether post-project impervious area conditions are greater than pre-project conditions and/or whether fees have previously been paid.

If you have any questions regarding comments from Flood Control, please contact Jeff Tang at (925) 454-5075. If you have floodplain related questions, such as whether the project is located within a natural floodplain, please contact the Floodplain manager at the City.

If you have any questions, please do not hesitate to contact the person identified per section comments or me at (925) 454-5037.

Sincerely,

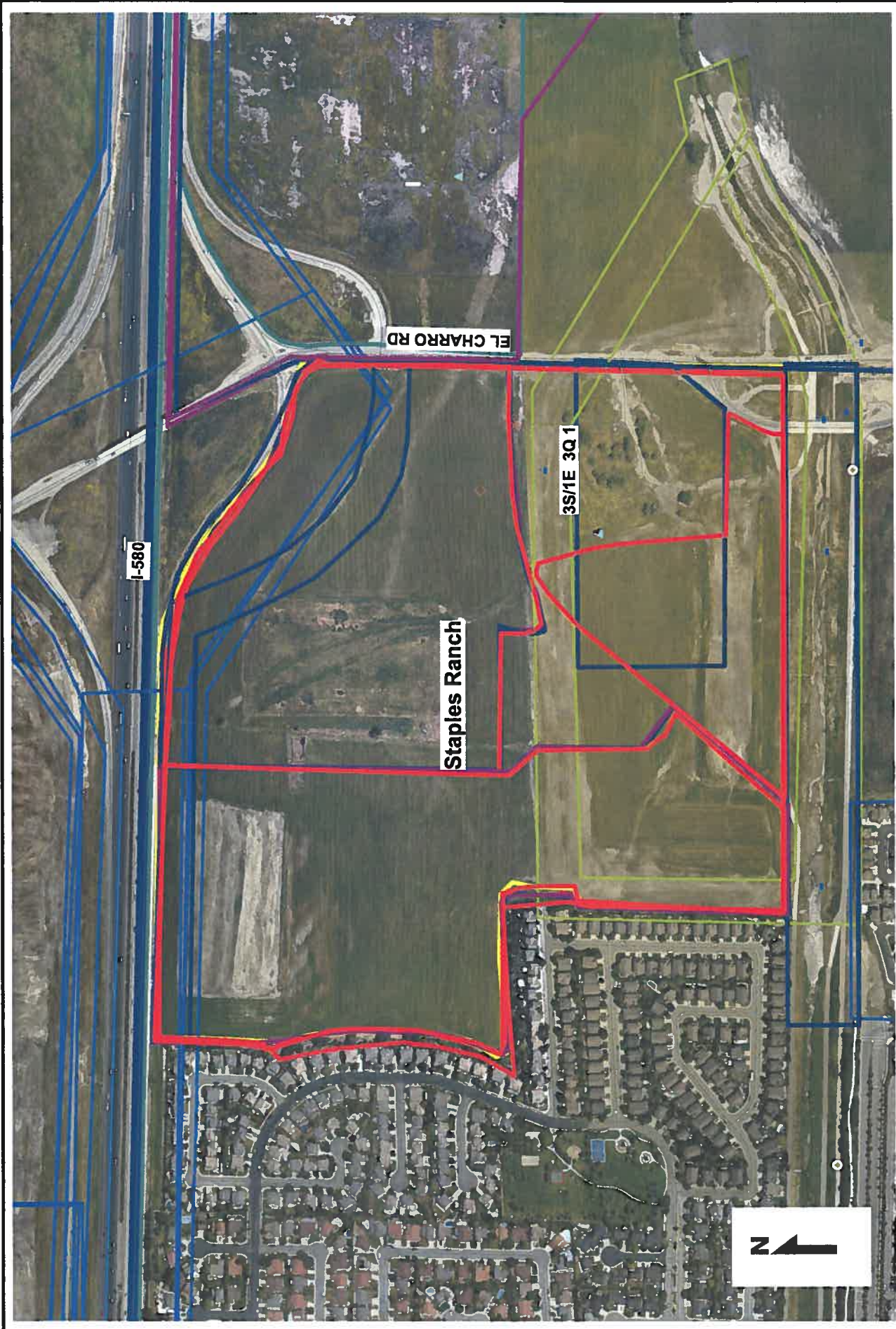


Steven J. Ellis, P.E.
Associate Civil Engineer

Enclosure

SJE:

c: Matt Katen, Zone 7, Groundwater Management
Joe Seto, Zone 7, Flood Control



SCALE: 1"= 500 ft
DATE: 10/11/10
FILE NO.: REF09-019C

WELL LOCATION MAP

**ZONE 7 WATER AGENCY
100 NORTH CANYONS PARKWAY
LIVERMORE, CA 94551**



DUBLIN SAN RAMON SERVICES DISTRICT
7051 DUBLIN BOULEVARD
DUBLIN, CA 94568
(925) 828-0515 fax: (925) 829-1180

DUBLIN SAN RAMON SERVICES DISTRICT
REG'L WASTEWATER TREATMENT FACILITY
7399 JOHNSON DRIVE
PLEASANTON, CA 94566
(925) 846-4565 fax: (925) 462-0658

LETTER OF TRANSMITTAL

DATE:	August 17, 2010
JOB:	Tract 8020 - Staples Ranch
RE:	Vesting Tentative Tract Map

TO: **RJA**
4690 Chabot Drive, Suite 200
Pleasanton, CA 94588
Attn: Eddie Sieu

WE ARE SENDING YOU:

<input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Under separate cover (via _____) the following items:			
<input type="checkbox"/> Shop Drawings	<input type="checkbox"/> Prints	<input type="checkbox"/> Plans	<input type="checkbox"/> Invoice	<input type="checkbox"/> Specifications
<input type="checkbox"/> Copy of Letter	<input type="checkbox"/> Change Order	<input type="checkbox"/> Purchase Order	<input type="checkbox"/> Permit Application	
<input type="checkbox"/> Project Manuals	<input type="checkbox"/> Work Order	<input type="checkbox"/>		

ITEM NO.	DATE	COPIES	DESCRIPTION
1	8/17/10	1	Stoneridge Drive Transmittal

THESE ARE TRANSMITTED as checked below:

<input type="checkbox"/> For approval	<input type="checkbox"/> Approved as submitted	<input type="checkbox"/> Resubmit _____ for approval
<input type="checkbox"/> For your use	<input checked="" type="checkbox"/> Approved as noted	<input type="checkbox"/> Submit _____ copies for distribution
<input type="checkbox"/> As requested	<input type="checkbox"/> Returned for corrections	<input type="checkbox"/> Return _____ corrected prints
<input type="checkbox"/> For review & comment		<input type="checkbox"/> Prints returned after loan to us
<input type="checkbox"/> FOR BIDS DUE _____ 20 _____		<input type="checkbox"/>

REMARKS:

Eddie,
We have reviewed the Vesting Tentative Tract Map for T-8020 Staples Ranch and have no comments for the map. We would however need to review the Improvement Plans associated with this project when they become available. Plan review fees will be required for those plans. Feel free to contact me if you have any questions.

Thanks,
-Jojo

Bonifacio (Jojo) Duenas
Engineering Tech/GIS Specialist 1
Dublin San Ramon Services District
7051 Dublin Blvd., Dublin, CA 94568
(925) 875-2249 Direct Line
(925) 829-1180 Fax
duenas@dsrsd.com



CC: _____

SIGNED: _____

FILE: _____



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, ZONE 7
100 NORTH CANYONS PARKWAY, LIVERMORE, CA 94551-9486 • PHONE (925) 454-5000

July 16, 2010

Planning Department
City of Pleasanton
PO Box 520
Pleasanton, CA 94566

RECEIVED

JUL 21 2010

CITY OF PLEASANTON
PLANNING DIVISION

**SUBJECT: Staples Ranch Tentative Map, PREV-759,
Staples Ranch, Pleasanton
Zone 7 Referral No. 09-019B**

Dear Plan Reviewer:

In response to your referral letter regarding the subject project, we offer the following comments:

Water Supply

As per our letter of August 26, 2009, Zone 7 owns a 25-foot waterline easement along the northern edges of lots 1, 6 and 7. Please provide more refined development plans for review and comment as they become available. Any work which may interfere with Zone 7's use of its waterline or full enjoyment of its easement rights requires an encroachment permit to be obtained from Zone 7. Please contact Jaime Rios at (925) 454-5031 if you have any questions regarding this comment.

Zone 7 requests that all applicants investigate minimizing potable water demands through conservation and through the use of recycled water.

Groundwater Management

Our records indicate there is only one water supply well (3S/1E-3Q1) located within the project boundaries. If any other wells are found within the project limits, they should be reported to Zone 7. All unused or "abandoned" wells must be properly destroyed. Any planned new well, soil boring or well destruction must be permitted by Zone 7 before starting the work. There are currently no fees for the Zone 7 drilling permits. Well permit applications can be obtained by contacting Wyman Hong at extension 235 or can be downloaded from our web site at www.zone7water.com.

Please have the applicant check the site for the existence of abandoned septic tanks and drain lines. If they are found to exist on the parcel, they should be excavated and removed from the site prior to grading to eliminate the potential for them to act as conduits for contamination migration in the case of a future polluting event at the site. The County Health Services Agency is typically the administrating agency for septic

tank removals in Alameda County. Their phone number is (510) 567-6700.

Flood Control

The proposed project is located north of Line G, the Arroyo Mocho, which is a Zone 7 flood control facility. The proposed project proposes to construct Stoneridge Drive bridge over and within Zone 7's facility. The proposed bridge over the Arroyo Mocho Channel would bisect and impact use of Zone 7's maintenance roads located along the north and south sides of the channel, which is owned in fee by Zone 7. The project proposes alternative access roads within easements connecting to Stoneridge Drive where the maintenance roads are truncated. The easements and access roads need to meet Zone 7 standards. Zone 7 has yet to receive working drawings to review and comment on.

On Sheet 4 of 9, from the Preliminary Stoneridge Drive plan, Section K-K indicates a cross-slope of 2%; Zone 7's standard is 3% draining away from the channel. The channel bank slope should also reflect a 2 ½ : 1 slope, instead of a 2:1 slope as presented.

It is unclear, from reviewing the Vesting Tentative Tract Map, Tract 8020 – Staples Ranch, whether our previous comments from August 2009 have been incorporated or not. Draft plans should be provided for our review well in advance to determine whether all impacts are mitigated to Zone 7's satisfaction.

As previously documented, because the proposed bridge is not a clear-span design, hydraulics and scour analyses need to be provided for review to determine any hydraulic impacts to Zone 7's facility, which is a requirement of the CEQA process that has not been addressed previously.

Developments creating new impervious areas within the Livermore-Amador Valley are subject to the assessment of the Development Impact Fee for Flood Protection and Storm Water Drainage. These fees are collected for Zone 7 by the local governing agency: 1) upon approval of final map for public improvements creating new impervious areas; and/or 2) upon issuance of a building or use permit required for site improvements creating new impervious areas. Fees are dependent on whether post-project impervious area conditions are greater than pre-project conditions and/or whether fees have previously been paid.

If you have any questions regarding comments from Flood Control, please contact Jeff Tang at (925) 454-5075. If you have floodplain related questions, such as whether the

Planning Department
City of Pleasanton
06-24-10
Page 3

project is located within a natural floodplain, please contact the Floodplain manager at the City.

If you have any questions, please do not hesitate to contact the person identified per section comments or me at (925) 454-5037.

Sincerely,



Steven J. Ellis, P.E.
Associate Engineer

Enclosure

SJE:

c: Matt Katen, Zone 7, Groundwater Management
Joe Seto, Zone 7, Flood Control



Staples Ranch Tentative Map

3S/1E 3Q 1

EL CHARRO RD

I-580



SCALE: 1" = 500 ft

DATE: 6/17/10

FILE NO.: REF09-19B

WELL LOCATION MAP

ZONE 7 WATER AGENCY
100 NORTH CANYONS PARKWAY
LIVERMORE, CA 94551