Engineering Design, Grading and Procedures Manual

City of San Ramon

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Updated July 2017 to include Complete Streets Guidelines

Public Works Department
Engineering Services Division
2401 Crow Canyon Road
San Ramon, CA 94583
Main (925) 973-2670
Fax (925) 838-3937

Engineering Design, Grading, and Procedures Manual for Public and Private Development Projects

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Chapter I

Introduction

I

INTRODUCTION

1. GENERAL

The purpose of the Engineering Design, Grading, and Procedures Manual for Public and Private Development Projects is to establish guidelines and standards for the design, preparation, submittal, and approval of plans for both public and private improvements (excluding buildings and structures) within the City of San Ramon. This Manual is designed to assist all persons involved in the land development process and to help ensure the highest quality infrastructure for our community by outlining design standards and requirements.

This Manual is intended to conform with and supplement the latest City of San Ramon Standard Plans and Specifications, Subdivision Ordinance, and Grading Ordinance, as well as other publications and standards that are referenced herein.

We hope that the preparation and publishing of this Manual is useful to all owners, developers, engineers, builders, and contractors in the planning, design, and construction of your project in the City of San Ramon.

Maria Fierner, PE, Public Works Director

2. DEFINITIONS

(A) APPLICANT – A person, resident, landowner, firm, agency, corporation, partnership, association or their representative, engaged in the land development process.

(B) BOND – Bid performance and payment bond or other instrument of security.

(C) CITY – Shall mean the City of San Ramon, a municipal corporation.

(D) CITY ENGINEER – Shall mean the City Engineer of the City of San Ramon, California.

(E) CONSULTING ENGINEER – Any person or persons, firm, partnership, or corporation legally authorized to practice Civil Engineering in the State of California who prepares or submits improvement plans and specifications to the Public Works Director of the City of San Ramon for approval.

(F) COUNCIL – The City Council of the City of San Ramon.

(G) DESIGN – Shall mean street alignment, grade, geometric section, structural section; sanitary sewer alignment, grade, size; water system alignment, valve sizing, fire hydrant location; storm drain alignment, grade, size; location and size of all required easements and rights-of-way; lands to be dedicated; lot size and configuration; grading; traffic access; and such other specific physical requirements in the plan and configuration of the entire subdivision or development project as may be necessary to ensure consistency with or implementation of, any applicable tentative Map, General or Specific Plan, or Conditions of Approval.

(H) DEVELOPER – Shall mean any person, resident, landowner, firm, agency, corporation, partnership, association or their representative engaged in the development of property in part or in whole by the placing of any improvements thereon, whether the property was previously developed in whole, in part, or at all.

(I) EASEMENT – Shall mean a right created by grant, reservation, agreement, prescription, or necessary implication, which the City, Public Utility or private entity has in the land of another, which shall be continuing and irrevocable unless formally abandoned.

(J) ENCROACHMENT PERMIT – Permit required when work is performed within existing or proposed City right-of-way as per City of San Ramon Municipal Code.

(K) PUBLIC WORKS DIRECTOR – Shall mean the Public Works Director of the City of San Ramon, California.

(L) FINAL MAP – A map prepared in accordance with the provisions of local ordinance and the most current Subdivision Map Act which map is designed to be recorded in the office of the Recorder of Contra Costa County.

(M) GRADING ORDINANCE – Shall mean the San Ramon Grading Ordinance as adopted and amended by the City Council of the City of San Ramon.

(N) GRADING PERMIT – Permit required when performing grading operations as per City of San Ramon Municipal Code and Grading Ordinance.

(O) IMPROVEMENTS – Includes, but not limited to, street work, sidewalk, curb, gutter, driveways, water mains, sanitary sewer, storm drainage, public utilities, landscaping, fences, lighting, signing and pavement markings, and any and all other related improvements and facilities installed by the developer on land for both public and private improvements.

(P) IMPROVEMENT PLAN – An engineering plan, prepared by a licensed civil engineer in the State of California, showing the design, sanitary sewers, storm drain, water systems, grading and earthwork, roadways, and all other development, appurtenant structures, and facilities and construction, including engineering calculations therefore, comprising on-site improvements required for a subdivision or land development project.

(Q) LOT LINE ADJUSTMENT – The changing of parcel lines between four or fewer existing adjoining parcels without processing a subdivision map, as long as the Lot Line Adjustment does not create a greater number of parcels and complies with local zoning and building ordinances.

(R) MANUAL OF TRAFFIC CONTROL – Shall mean the “Manual of Traffic Controls for Construction and Maintenance Work Zones” issued by the State of California, Department of Transportation, latest edition, unless otherwise stated.

(S) ONSITE IMPROVEMENTS – Shall mean structures and facilities/infrastructure erected and/or constructed permanently for use on a site.

(T) OFFSITE IMPROVEMENTS – Shall mean the development of land to make adjacent property suitable for construction, including but not limited to sidewalks, curbs or streets.

(U) OVERSIZE LOAD (TRANSPORTATION PERMIT) – Permit required when moving any vehicle on City streets in excess width of eight (8) feet and /or length of sixty-five feet. Permit will be issued as per City of San Ramon Municipal Code and the California Vehicle Code.

(V) PRELIMINARY TITLE REPORT – Shall mean a report showing the condition of title before a sale or loan transaction, which is current within 6 months.

(W) RIGHT-OF-WAY – Shall mean a strip of land, which is used as a roadbed, either for a street or railway. The land is set aside as an easement or in fee, either by agreement or condemnation. May also be used to describe the right itself to pass the land of another.

(X) SOILS REPORT – Shall mean a report prepared by any person or persons, firm, partnership, or corporation legally licensed to prepare “Soils Reports” in the State of California, and shall be current within 12 months.

(Y) STANDARD DETAILS – Shall mean the Standard Details of the City of San Ramon, latest edition.

(Z) STATE HIGHWAY DESIGN MANUAL – Shall mean the State of California Department of Transportation Highway Design Manual, latest edition, unless otherwise stated.

(AA) STATE MATERIALS MANUAL – Shall mean the Materials Manual of Testing and Control Procedures of the State of California, Public Transportation Laboratory Manual of Test, Department of Transportation, latest edition, unless otherwise stated.

(BB) STATE PLANNING MANUAL – Shall mean the Planning Manual of Instructions of the State of California, Department of Public Works, Department of Transportation, Parts 1 - 8, latest edition, unless otherwise stated.

(CC) STATE SPECIFICATIONS – Shall mean the Standard Specifications for the State of California, Department of Transportation, latest edition, unless otherwise stated.

(DD) STATE STANDARD PLANS – Shall mean the Standard Plans of the State of California, Department of Transportation, latest edition, unless otherwise stated.

(EE) STORM WATER POLLUTION PREVENTION PLAN (SWPPP) – A stormwater plan required for construction projects as outlined in the state construction general permit to reduce or eliminate erosion and siltation from entering local waterways during construction operations.

(FF) SUBDIVIDER – A person, resident or property owner, firm, corporation, partnership, association or their representative who proposes to divide, or causes to divide real property into a subdivision for himself/herself or for others except that employees and consultants of such persons or entities, acting in such capacity, are not subdividers.

(GG) SUBDIVISION – The division, by any subdivider, of any unit or work of improved or unimproved land, or any portion thereof, shown on the latest equalized county assessment roll as a unit or contiguous units, for the purpose of sale, lease, or financing, whether immediate or future.

(HH) SUBDIVISION MAP ACT – The Subdivision Map Act of the State of California (Title 7 of the Government Code), as amended.

(II) SUBDIVISION ORDINANCE – Shall mean the San Ramon Subdivision Ordinance as adopted and amended by the City Council of the City of San Ramon.

(JJ) TENTATIVE MAP – A map, prepared by or under the direction of a land surveyor or civil engineer, for the purpose of showing the design of a proposed subdivision, the existing conditions in and around said subdivision, and other information as may be required.

(KK) TENTATIVE MAP, VESTING – A tentative map for a residential subdivision, as defined herein, that shall have printed conspicuously on its face the words “Vesting Tentative Map” at the time it is filed.

(LL) ZONING ORDINANCE – Shall mean San Ramon Zoning Ordinance as adopted and amended by the City Council of the City of San Ramon.

Chapter II
Submittal Procedures

II

SUBMITTAL PROCEDURES

1. APPLICANT

The applicant is responsible to make certain that the following items are included with each application and submittal package that is submitted to the Public Works Director for plan check. Applications failing to include one or more of these items will not be accepted for processing. All applications and submittals shall be made in person with a representative of the Engineering Services Division. No initial submittals for plan check will be accepted by mail. All submittals may require a PDF file of all documents submitted subject to the discretion of the Public Works Director. A Plan Check Submittal Application Checklist is included in Appendix A summarizing the items required for submittal to the City for final maps, parcel maps, grading plans, and improvement plans.

2. FIRST PLAN CHECK

(A) FINAL MAPS (PARCEL MAPS OR TRACT MAPS)

The following items are required for the submittal and processing of final parcel and tract maps. Refer to Chapter V of this manual for more details regarding parcel and final map requirements. Applications failing to include one or more of these items will not be accepted for processing.

(1) Five (5) full size and five (5) 11” x 17” sets of blueline prints or bond copies of the subject map signed and stamped by a registered engineer.

(2) Two (2) complete sets of closure calculations with a coordinate map indicating points referenced in the calculations.

(3) One (1) set of final annotated project Conditions of Approval along with a signed Planning Commission Resolution.

(4) Two (2) copies of the current preliminary title report and subdivision guarantee. The title report shall not be more than six months old.

(5) One (1) copy of the approved Tentative Map.

(6) Copies of all reference documents utilized in the preparation of the map:

(a) Abutting record maps, records-of-survey, etc.

(b) All related easement documents

(c) Survey notes, tie notes and reference maps.

(7) Completed application form and fee deposit as stipulated by the latest Fee Schedule.

(8) Any additional information deemed reasonable and necessary by the Public Works Director or required by local ordinance.

(B) GRADING PLANS

The following items are required for submittal and processing of grading plans. Applications failing to include one or more of these items will not be accepted for processing. All grading plan submittals shall be signed and stamped by a Civil Engineer and a soils/geotechnical engineer who are responsible for the preparation of the grading plans. Refer to Chapter VII of this manual for more details regarding grading requirements.

(1) Five (5) sets of bluelines or bond copies prepared by or under the direction of a Civil Engineer and a soils/geotechnical engineer registered in the State of California with every plan sheet signed, with seal or stamp and expiration date.

(2) Two (2) copies of a project specific geotechnical (soils) report prepared by a registered soils/geotechnical engineer experienced in geotechnical engineering in this area and dated within 12 months of submittal date. Soils report shall be based on appropriate investigation and address soil corrosivity and expanding soils.

(3) Two (2) completed Engineer's quantity and cost estimates including shrinkage and subsidence.

(4) Completed application form and plan check deposit.

(5) One (1) set of final project Conditions of Approval and signed Planning Commission Resolution.

(6) Copies of any drainage or grading acceptance letters from adjacent property owners.

(7) One (1) complete set of any other materials or information necessary for the plan check of the subject grading plan (improvement plans, adjacent grading plans, grading specifications, erosion control plans and specifications, earthwork calculations, dewatering plans, drainage and diversion structures, etc.).

(8) A copy of the Storm Water Pollution Prevention Plan (SWPPP) including the Waste Discharge Identification (WDID) number for all projects of 10,000 square feet or more.

(9) A copy of mitigation measures related to grading operations.

(10) Any additional information deemed reasonable and necessary by the Public Works Director or required by local ordinance.

(C) IMPROVEMENT PLANS

The following items are required for submittal and processing of improvement plans for both public and private development projects within the City of San Ramon. Applications failing to include one or more of these items will not be accepted for processing. All improvement plans shall be signed and stamped by

the responsible licensed civil engineer and shall have all other agency review signatures affixed prior to submittal for plan check.

(1) Five (5) full size sets of bluelines or bond copies and five (5) 11" x 17" copies prepared by or under the direction of a Civil Engineer registered in the State of California, with every plan sheet signed, with seal or stamp and expiration date.

(2) Two (2) sets of hydrology and hydraulic calculations (with hydrology maps). Calculations shall be in spreadsheet format, stamped & signed by licensed civil engineer.

(3) Acknowledgement of plans and calculations submittals to municipal agencies for water and sewer service. The agency approval of the design and in compliance within their respective master plan (i.e., DSRSD, EBMUD, and CCCSD) must occur prior to City approving improvement plans.

(4) Two (2) copies of a project specific geotechnical (soils) report prepared by a registered Soils/Geotechnical Engineer experienced in geotechnical engineering in this area and dated within 12 months of submittal date. Soils report shall be based on appropriate investigation and address soil corrosivity and expanding soils.

(5) One (1) copy of the "Plan Check Submittals Applicant Check List" completed in its entirety by the applicant.

(6) Two (2) completed Engineer's quantity and cost estimates

(7) Completed application form and plan check deposit

(8) One (1) set of final project Conditions of Approval and signed Planning Commission Resolution.

(9) One (1) complete set of any other applicable materials and information necessary for the plan check of the subject project improvement plans (approved Tentative or Final Map, grading plans, adjacent improvement plans, record or as-built drawing of existing facilities, current soils report, cross sections, special designs, structural calculations, lighting calculations, sight distance calculations, etc.).

(10) Copy of submitted "Notice of Intent" and Storm Water Pollution Plan, submitted to the Regional Water Quality Control Board, if project impacts 10,000 square feet or more unless previously submitted with a grading plan.

(11) Two (2) copies of Stormwater control/management plan in compliance with latest Regional Water Quality Control Board Municipal Regional Permit requirements.

(12) Copies of Mitigation Measures.

(13) Any additional information deemed reasonable and necessary by the Public Works Director or required by local ordinance.

3. SECOND PLAN CHECK

(A) FINAL MAPS (PARCEL MAPS OR TRACT MAPS)

(1) Three (3) sets of the subject map revised to include all the necessary revisions, changes, and/or additions noted on the initial plan check.

(2) Two (2) complete sets of any revised closure calculations together with a revised coordinate map if any changes were made.

(3) Return to the City ALL previous check prints of the Final Map and all other plan check materials.

(4) The applicant shall submit a signed statement indicating that the map revisions comply with the previous plan check comments. The applicant shall also indicate any changes to the map that are not in response to the previous check comments, and shall explain any exceptions taken to the plan check comments.

(5) The applicant shall submit a signed statement indicating that the final parcel or tract map satisfies all the Conditions of Approval. The statement shall also explain or clarify how the Conditions of Approval are being met.

(6) Any additional information deemed reasonable and necessary by the Public Works Director and the plan checker.

(B) GRADING PLANS

(1) Three (3) sets of revised grading plans showing all the requested revisions, changes, and/or additions.

(2) Three (3) sets of retaining wall plan showing plan, profile and special details if part of the grading approval. Applicant shall also include necessary structural calculations and a letter from the Geotechnical Engineer stating that plans and calculations conform to report recommendations.

(3) Two (2) complete sets of any other previously submitted information, which required revisions or changes.

(4) Return to the City ALL previous check prints and plan check materials.

(5) The applicant shall submit a signed statement indicating that the grading plan revisions comply with the previous plan check comments. The applicant shall also indicate any changes to the plans that are not in response to the previous check comments, and shall explain any exceptions taken to the check comments.

(6) The applicant shall submit a signed statement indicating that the grading plans comply with and satisfy all Conditions of Approval.

(7) Any additional information deemed reasonable and necessary by the Public Works Director and the plan checker.

(C) IMPROVEMENT PLANS FOR PUBLIC AND PRIVATE DEVELOPMENT

(1) Five (5) sets of revised improvement plans showing all the requested revisions, changes, and/or additions.

(2) Three (3) complete sets of bluelines or bond copies of the project composite joint trench plans (including all underground utilities, street lighting system, box and vault locations, wiring, location and layout of other public improvements, etc.) signed and stamped by the responsible Design Engineer. Submit three (3) sets of traffic signal plans and specifications, if required for the project.

(3) Three (3) sets of traffic signal plans and specifications if required for project.

(4) Three (3) complete sets of landscaping/irrigation systems plans (including medians, onsite, offsite, sleeving, walls, decorative features, water service locations, etc.) signed and stamped by a landscape architect.

(5) Two (2) complete sets of any other additional previously submitted information, which required revisions or changes.

(6) Return to the City ALL previous check prints and plan check materials.

(7) The applicant shall submit a signed statement indicating that the improvement plan revisions comply with the previous plan check comments. The applicant shall also indicate any changes to the plans that are not in response to the previous check comments, and shall explain any exceptions taken to the check comments.

(8) The applicant shall submit a signed statement that the improvement plans comply with and satisfy all the Conditions of Approval.

(9) Any additional information deemed reasonable and necessary by the Public Works Director and the plan checker.

4. THIRD PLAN CHECK (AND SUBSEQUENT CHECKS, IF REQUIRED)

(A) Applicant shall submit complete sets of revised Final Maps, grading plans, improvement plans, and all other submittal and plan check material in the same number and following the same procedures described in the preceding section. This process is continued until the applicant is notified by the Engineering Services Division representative of map and/or plan approval.

(B) An additional plan check deposit may be required by the Applicant if the previously collected deposit is not sufficient to cover the actual plan check costs or if there are significant changes to the scope or basic parameters of the proposed work. You will be notified by an Engineering Services Division representative prior to the depletion of funds. It is beneficial to deposit funds immediately so as to not delay the review of your project.

5. PROCESSING BY CITY STAFF

(A) All applications and submittals are made to the Engineering Services Division representative. The initial (first) plan check application and submittal must be made in person by the applicant to the Engineering Services Division Representative. No initial plan checks will be accepted by mail.

(B) Prior to accepting the application for plan check, Engineering Services Division representative reviews the submittal for completeness of the required information.

(C) Submittals will be accepted for plan check only if all required items and information are included. Incomplete submittals will not be accepted and the City will not begin the plan review process.

(D) The Engineering Services Division representative will collect the required fee(s) and deposits and issue a receipt to the applicant. The Finance Department will establish a deposit account number. The initial grading plan and improvement plan deposits will be made based upon the Engineer's initial cost estimate of the work.

(E) The Engineering Services Division representative will date stamp each map and plan sheet and the first sheet of all other bound documents and materials included in the submittal package. The submittal will be logged and a project file started.

(F) Engineering Services Division representative distributes the map and plans to Engineering and other appropriate City departments (Public Services Department, Police Department, Planning Department, Building Division, etc.) for review. It is the applicant's responsibility to submit to all other applicable outside agencies such as San Ramon Valley Fire Protection District, Central Contra Costa Sanitary District, East Bay Municipal Utility District, Dublin-San Ramon Services District, East Bay Regional Park District, Regional Water Quality Control Board, California Department of Fish & Game, United States Army Corps of Engineers, Caltrans, etc. Applicant should allow sufficient time for turn-around of all plan checks as described elsewhere in this manual. Review by outside agencies may increase the plan check turn-around time.

Separate permits are required through the Building Division for masonry walls, retaining walls, trash enclosures, signs, low voltage wiring, and site lighting.

(G) Engineering returns redlined plan check maps, plans, and accompanying related submittal materials to the applicant for revisions and changes. The Engineering Services Division representative will note in the file the date the submittal was returned to the applicant.

(H) Where items of concern cannot be noted on the map or plans, Engineering will provide a letter to the applicant detailing the plan check comments. The information returned by Engineering to the applicant will incorporate all the comments that have been received from the various City departments and other agencies.

(I) Applicant revises the map and plans in accordance with Engineering's plan check comments and requirements. Applicant resubmits revised maps and plans, with Engineering's check prints and comments along with any requested additional information or documentation, for subsequent plan check. Submittals addressing comments from other agencies shall include said agency's red lines and/or comments.

(J) This process is continued and repeated until all the plan checker's comments and the project Conditions of Approval have been satisfactorily addressed, and the map and plans are ready for approval.

(K) Based on the approved Engineer's cost estimate, Engineering will calculate the necessary additional fees and prepare the final security and agreement forms for execution by the applicant/developer. Forms are transmitted to the applicant for execution.

(L) Upon notification, applicant submits the original map with all required signatures, Subdivision Agreement, securities, and fees still outstanding. All required signatures must be executed on the original map (i.e., "wet" signatures).

(M) Upon notification, the applicant submits the original grading plans, improvement plans, and/or site development plans for City Engineer's signature. City Engineer will not sign the plans until applicant has had the plans signed by the responsible Engineer of Record, Soils Engineer, Fire District, and any other affected outside agencies (CCCSD, EBMUD, DSRSD, EBRPD, Caltrans, RWQCB, Fish and Wildlife, Army Corp, etc.)

(N) For Final Maps and Parcel Maps, the Engineering Services Division representative schedules the map for City Council action and prepares the staff report. The complete submittal shall be received by the department three (3) weeks prior to the City Council meeting. The applicant will be notified when the Final or Parcel Map will be sent for recordation.

(O) After receiving all necessary approvals and signatures from the City, the map is transmitted to the applicant's title company for the remaining processing and recordation of the map.

(P) Within 30 days of recordation of the Final or Parcel Map, the applicant is responsible to provide one (1) set of full-size duplicate photo mylars, (4-mil, reverse-read, matte side up) one (1) set of 8 ½ "X 11" reductions of the map in PDF format, and one (1) bond copy of the recorded map to the City for record keeping purposes.

(Q) Thirty (30) days after the signature by the City Engineer on the grading, improvement, and/or site development plans, applicant shall provide to the City one (1) set of full-size duplicate photo mylars (4-mil, reverse-read, matte side up), (1) set of 11"x17" reductions, and two (2) sets of blueline or bond copies of the signed plans and all electronic files for these plans for record keeping purposes. A duplicate set of original mylar plots of the approved grading, improvement, and/or site development plans may be submitted in lieu of photo mylar.

(R) Any proposed changes made during construction (as-builts) shall be noted and shown on the original improvement plans by the Engineer of Record, and submitted to the City for review and written approval. Revisions must be noted on the revision block on the cover sheet and each affected sheet. Revisions must be labeled sequentially. The Engineer of Record shall submit bond copies for approval. Once they have been reviewed and approved mylars shall be submitted for formal signature.

(S) Engineer of Record shall submit record drawings to the Engineering Services Division representative prior to final inspection and acceptance of the improvements. The record drawings shall contain all the signatures obtained from the City and other affected agencies. The record drawings shall be submitted on bond copy until approval by the inspector. At approval, mylars of the record drawings must be submitted to the Engineering Services Division for file.

(T) Final acceptance of public improvements will not be done until all the items of work as shown on the approved improvement plans, and any corrections, are completed. When all items are completed, the developer shall request final acceptance and, after acceptance by the City Engineer, shall be agendized for formal acceptance by City Council for all public improvements. All private improvements will be signed-off by the City Engineer.

(U) Upon acceptance of the improvements by the City Council, the City Clerk releases the retained security.

6. PLAN CHECK SCHEDULE

The Engineering Services Division representative will check the applicant's map and/or plan submittal as outlined in this manual. The submittal will be checked for completeness of information and to make certain that all related materials are included. Incomplete submittals cannot be plan checked, and will not be accepted for processing. The submittal will not be accepted for checking until all the required information has been included, and the plan check deposits have been satisfactorily made.

For submittals that satisfy the map and plan criteria and requirements, the City of San Ramon (City) intends to adhere to the following plan-check schedule:

First Plan Check: Return to applicant within twenty (20) working days of initial receipt of the submittal. Reports and/or improvement plans requiring a consultant PEER review may require additional time past the twenty (20) working days and will be coordinated with the applicant/developer, etc.

Second Plan Check: Return to applicant within ten (10) to fifteen (15) working days of receipt of the submittal.

Third Plan Check (and subsequent checks, if necessary): Return to applicant within five (5) to ten (10) working days of receipt of plans by the City.

In order to maintain the above schedule, timely and thorough responses to the City's comments are required by the applicant. The City will not be able to meet these turnaround times with incomplete submittals. The actual length of time to complete each

plan check also depends upon such factors as size of the project/number of lots; level, completeness, and accuracy of information shown on the plans; complexity of the project; and responsiveness to project Conditions of Approval and previous plan check comments.

Applicable throughout this manual, all final map and plan submittals that are prepared electronically (e.g., CAD drawn) shall be accompanied by an electronic file (.dwg or approved equivalent file format). See the section in this manual on Electronic File Submission.

7. ELECTRONIC FILE SUBMISSION

(A) REQUIRED DATA

In addition to the hard copies of all map and plan materials currently being submitted, a digital graphics file containing the following data is required to be submitted in order to facilitate transferring of the file into the City mapping system in a .dwg or approved equivalent file format. (See Appendix B on Layers for layering designations.)

Coordinate System: California Coordinate North American Datum 1983 (NAD 83), Zone III, US Survey Feet.

Chapter III
Development Fees

III

DEVELOPMENT FEES

1. GENERAL

(A) Fees for map checking, plan checking, document review, inspection of public and private improvements, encroachment permits, grading permits, drainage mitigation, water meters, miscellaneous processing, plan revisions, deposits, bonding amounts, and all other processing fees associated with the applicant's requested subdivision or land development projects shall be as shown in the latest City of San Ramon Engineering Fee Schedule adopted by the City Council.

(B) Fees for various products and reproduction services, including blueprint/large Xerox, CAD-generated maps, electronic basemap files, custom plots, and digital output on disk, shall be as shown in the latest City of San Ramon Engineering Fee Schedule adopted by the City Council.

2. PAYMENT OF FEES

(A) Plan checking deposits for the fees noted above shall be made by the applicant to the City with every project application. The applicant's submittal will not be considered to be complete and no map or plan checking will be done by the City until the appropriate plan checking deposit has been received.

(B) Deposit amounts for map and plan checking, and grading and encroachment permit fees, will be based on the projected City costs to service the applicant's request as shown on the latest City of San Ramon Engineering Fee Schedule. These deposits and fees will be calculated based on the latest City Council adopted fee schedule.

(C) The applicant shall pay fees for permits to the City prior to the issuance of any permit.

3. BONDS

(A) GRADING AND ASSOCIATED IMPROVEMENTS

The applicant shall provide security for the performance of the work described and delineated on the approved grading plan and interim and final erosion and sediment control plans in an amount not less than one hundred (100) percent of the total estimated cost of the work. The City Engineer shall approve the estimated cost of work.

The type of security shall be either:

(1) Cash deposit with the City; or

(2) A certificate of deposit or letter of credit approved by the City Attorney from a financial institution subject to regulations by the State or Federal government who said financial institution pledges funds are on deposit

and guaranteed for payment, and payable immediately, partially or in full, to the City upon demand.

(B) PUBLIC IMPROVEMENTS

The applicant must file with the City a Payment & Performance bond or cashier's check payable to the City of San Ramon. The Payment & Performance Bond or cashier's check must be equal to 100% of the cost of improvements unless approved otherwise by the Public Works Director. The bond amounts will be determined by the approved Engineer's Quantity and cost estimate.

The Warranty/Maintenance Bond shall be filed with the City prior to acceptance of improvements. The amount of the Warranty/Maintenance Bond shall be ten percent (10%) of the total project cost. This amount shall be specified in the Subdivision Improvement Agreement.

The Warranty/Maintenance Bond shall be held for a period of one (1) year. In the event of non-compliance on items that the City requires before acceptance, the City may proceed to take action against the surety and principal for the actual cost the City incurred plus administration and overhead costs.

Chapter IV

Permits

IV

PERMITS

1. TYPES OF PERMITS ISSUED BY THE ENGINEERING SERVICES DIVISION

(A) Site Development Permit

(B) Grading Permit

(C) Encroachment Permit

(D) Transportation Permit

(E) Drainage Permit

2. ACTIVITIES REQUIRING A PERMIT

(A) Site Development Permit – A site development permit is required for work on private property, which includes (but is not limited to) excavation or moving of dirt, installation or alteration of drainage, paving, or installation of site improvements such as sidewalk, landscaping, lighting, and utilities. Prior to issuance of this permit, prior approvals are generally required, including approval by the Planning Department and/or the Planning Commission and review and approval by the Engineering Services Division of improvement plans, traffic, hydrology and soils studies and reports, and site stormwater control plans. In many cases, grading is included within the site development permit and no separate grading permit is needed when site development permit is obtained. This is common for many private site development projects (excluding residential subdivisions).

(B) Grading Permit – See Chapter VII, Section 2 of “Grading”, which specifies when a grading permit is required. No separate permit is needed when site development permit is obtained.

(C) Encroachment Permit – An Encroachment Permit is required for any work to be performed in the public right-of-way. Examples of work requiring an encroachment permit would include (but are not limited to) trenching in the street for a new utility or repair and/or replacement, replacement of sidewalk, installation of a drain through the curb, construction or widening of a driveway approach, and dumpsters and/or portable outdoor storage units. On most streets, the public right-of-way extends approximately 10 feet from the face of curb but varies throughout the City.

(D) Transportation Permit – A Transportation Permit is required for transportation loads in excess of Caltrans standard height, weight, and length requirements. A permit is needed when the vehicle exceeds any of the following: 8-½ feet wide, 14-feet tall, 40-feet in length, or 65-feet combined length. A Transportation Permit is valid for 5 days and permit request must be made at least 1 working day prior to the transport date.

(E) Drainage Permit – A drainage permit is required for any work on any City-owned drainage easement or any other work that may alter the drainage patterns or characteristics.

3. PERMIT FORMS

(A) Site Development Permit – See standard form in Appendix C

(B) Grading Permit – See standard form in Appendix C

(C) Encroachment Permit – See standard form in Appendix D

(D) Transportation Permit – See standard form in Appendix E

(E) Drainage Permit – See standard form in Appendix F

4. LIST OF REQUIRED DOCUMENTS AND INFORMATION

(A) The application shall be accompanied by the following materials typically for site development, encroachment, and grading permits (Listed items may not be applicable to all types of permits):

(1) Inspection and Plan Checking Fees. Fees may be waived if the City Engineer finds that the scope of work does not require inspection or plan checking services; fees for utility company work may be deferred as determined by the City Engineer until after the work is completed; fees shall be calculated in accordance with the current fee schedule adopted by the City Council.

(2) An engineer's estimate of the quantity and cost of work to be done.

(3) Costs of applicable improvement plans, grading plans, landscape plans, soundwall or masonry wall plans, depicting the intent of the improvements, and surrounding existing conditions refer to various sections of this manual for specific minimum requirements regarding these plans and general design parameters.

(4) Schedule of work including estimated start and completion dates.

(5) Performance surety required. As a condition of issuing a permit (except a Transportation Permit) applicant shall post a surety bond or cash deposit.

(6) Copies of any permits that are required by the United States Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, Caltrans, or any other agency having jurisdiction over the area subject to grading or the grading activity.

(7) All appurtenant reports and backup documentation relevant to the proposed improvement (i.e., soils/geotechnical report, traffic report, hydrology report, stormwater pollution prevention plan, erosion control plan, structural calculations, lighting photometrics, parking study).

(8) Subdivisions. In the case of subdivisions, the approval to proceed by the City Engineer, after having signed grading plans and having received all

required bonds, fees, agreements and deeds, shall constitute the issuance of a grading permit. Grading shall be defined as an improvement for the purposes of the subdivision improvement agreement.

(9) Failure to Complete Work. In the event of failure to comply with all of the conditions and terms of the permit, the Public Works Director may order the work authorized by the permit to be completed or put in a safe condition to this or her satisfaction. The surety executing such bond or deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended in causing any and all such work to be done. In the case of a cash deposit, said deposit or any unused portion thereof, shall be refunded to the permittee.

(10) Default in Performance of Conditions (typically for site development and/or grading permits). Whenever the City Engineer finds or determines that a default has occurred in the performance of any requirement of a condition of a permit, written notice thereof shall be given to the principal and when applicable, to the surety on the bond. Such notice shall specify the work to be done, the estimated cost thereof and the period of time deemed by the Public Works Director to be reasonably necessary for the completion. After receipt of such notice, the surety shall, within the time specified, cause or require the work to be performed, or failing therein, shall pay over to the Public Works Director the estimated cost of doing the work as set forth in the notice. Upon receipt of such monies the Public Works Director may cause the required work to be performed and completed. The surety shall pay the Public Works Director actual costs in excess of the estimate amount plus a mobilization charge.

(a) Should the permittee fail to comply with the conditions of approval or repair damage upon request by the City, the City shall give written notice to the permittee and surety of the bond. The notice shall state:

i. The work to be completed and/or repairs to be made

ii. The approximate cost to perform the required work

iii. The time in which all work is to be completed

Should the required work not be completed within the time specified by the City, the City may cause such work to be done and deduct the cost thereof from any cash deposit or collect such amount from the surety.

For grading permits, when the grading is not performed by the contractor within the time prescribed by the grading permit, a time extension may be granted upon a showing of just cause.

Sureties or the remaining portion of any cash deposit will be released only upon satisfactory completion of the work and completion of any required warranty period. Warranty periods shall not exceed twelve months.

Performance bonds for subdivisions shall be in accordance with the requirements of the City of San Ramon Grading Ordinance.

(11) Issuance, Expiration and Renewal. Except as provided below, every permit issued shall be valid for a period as specified on the permit. If the permittee is unable to complete the work by the end of the two year period plus any extensions that have been granted, the City Engineer may renew the grading permit on an annual basis for a fee as required by the City Engineer and per the latest adopted Fee Schedule. However, the Public Works Director may require at any time that grading operations and project designs be modified to address weather related problems not considered at the time the permit was issued or to eliminate a hazard.

Every permit issued shall expire on the date as specified in the permit. The Public Works Director may extend the expiration period upon written request from the applicant showing to the Public Works Director's satisfaction that circumstances beyond the control of the applicant have caused the delay provided that:

(a) No changes have been made in the original plans and specifications for the work

(b) The plans are in compliance with all applicable current City regulations

(c) The surety is in place for the extended period

5. PRIOR TO PERMIT ISSUANCE

(A) All permit processing and inspection fees as calculated by the current Engineering Fee Schedule shall be paid to the Engineering Services Division.

(B) Bonds

(1) Site Development/Grading Permits: The applicant shall provide security for the performance of the work described and delineated on the approved grading plan and interim and final erosion and sediment control plans in an amount not less than one hundred (100) percent of the total estimated cost of the work. The estimated cost of work shall be approved by the Public Works Director.

The Maintenance Bond shall be filed with the City prior to acceptance of improvements. The amount of the Maintenance bond shall be ten percent (10%) of the cost of the improvements for the project. This amount shall be specified in the Subdivision Improvement Agreement.

The Maintenance Bond shall be held for a period of one (1) year. In the event of non-compliance on items that the City requires before acceptance, the City may proceed to take action against the surety and principal for the actual cost the City incurred plus administration and overhead costs.

(2) Encroachment Permits: The applicant must file with the Public Works Director a faithful performance bond or cashier's check payable to the

City of San Ramon in an amount not less than one hundred (100) percent of the total estimated cost of work. The estimated cost of work shall be approved by the Public Works Director.

A Maintenance Bond for work performed under an encroachment permit may be required by the Public Works Director. The amount and duration of the Maintenance Bond will be determined by the Public Works Director.

(C) Insurance. Prior to permit issuance for larger scale projects as determined by the Public Works Director, applicant, developer, or contractor must provide the following minimum insurance requirements.

(1) Comprehensive general liability insurance (using Insurance Services Office form CG 0001 or equivalent) and automobile liability insurance (using Insurance Services Office form number CA 0001, Code 1 (any auto) or equivalent, with a minimum combined single limit in the amount of two million dollars ($2,000,000) per occurrence for bodily or personal injury to, illness of, or death or persons, and damage to property.

(2) Worker's Compensation insurance and Employer's Liability insurance as required by the laws of the State of California. Said insurance policy shall provide that the insurer waives all rights of subrogation against the City, its officers, agents, employees and volunteers for losses arising from work performed by City. Any notice of cancelation or non-renewal for all WC policies must be received by the City at least thirty (30) days prior to such change.

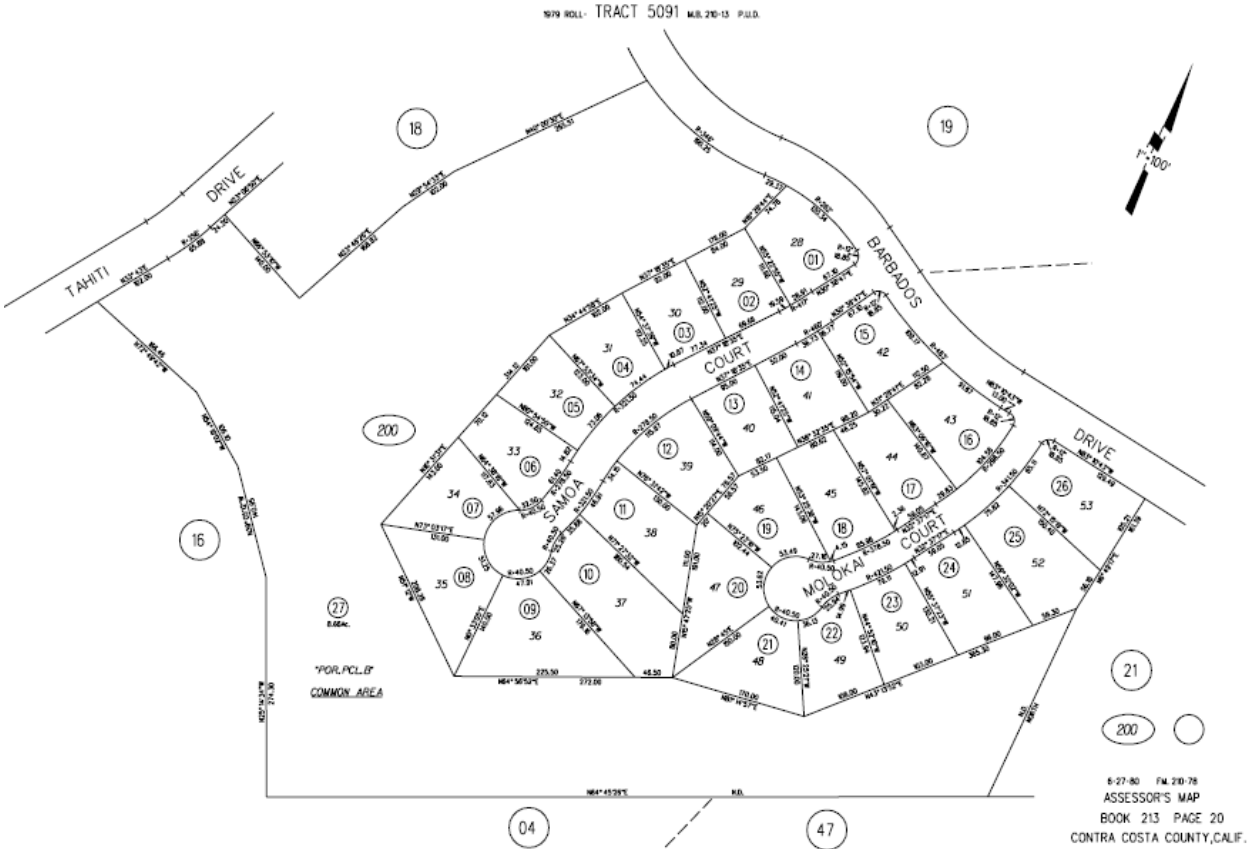
(3) FOR USE ONLY WITH ARCHITECTS, ENGINEERS, ATTORNEYS AND SIMILAR PROFESSIONALS. Errors and Omission Insurance, which covers the services to be performed under this contract, in the minimum amount of one million dollars ($1,000,000).

(D) Prior to issuance of approved permit, a complete set of signed, approved plans must be on file with the City.

(E) Compliance with and/or completion of any condition required prior to permit issuance.

Chapter V

Final Maps (Parcel or Tract)



V

FINAL MAPS (PARCEL OR TRACT)

1. MAP REQUIREMENTS

(A) MAP FORM

The Final Map (parcel or tract) shall be drawn, printed or otherwise reproduced in a manner guaranteeing a permanent record in black ink. The map shall be prepared on 4 mil. mylar (reverse reading with matte surface up), having an overall size of 18 inches by 26 inches.

A one-inch margin shall be left on each map edge, leaving an interior sheet size of 16 inches by 24 inches. No writing or marking of any type shall be inserted within the one-inch margin. The border shall be a black indelible line having a thickness of 1/16".

(B) MAP CONTENT

(1) Vicinity map, which shall include the surrounding areas and nearby major roadway arterials.

(2) All discrepancies with record data shall be shown.

(3) Recording information of record used must be clearly indicated. Non-measured record lines shall be indicated.

(4) Approved access shall be indicated with street name and recorded book and page number.

(5) Private streets: Note: "Private Street", under the approved street name.

(6) Private storm drain, sanitary sewer, or any other facilities shall be so noted within appropriate easements. Include additional 5' public utility easement, including adjacent to street rights-of-way, on the map and dedication statement.

(7) Title Information: The assigned subdivision number/parcel map number shall be shown on the map. A legal description of the property is to be included under the assigned map number. The date of map preparation, north arrow and scale, in addition to the firm preparing the map, must be shown in conjunction with the assigned map number.

(8) Legend: A complete legend shall be provided on each sheet indicating at least the following:

(a) Found monumentation: Solid

(b) Set monuments: Open

(9) Adjacent parcels shall be indicated on the map to the extent possible, including recorded map book and page number and/or the Vesting Deed book and page numbers or recorder's series number. Any recent subdivisions shall be noted, including any recording information.

(10) Privately maintained roads shall be indicated by dashed lines. Publicly maintained roads (dedicated and accepted) shall be shown by solid lines.

(11) All existing easements shall be indicated by dashed lines, with all associated dimensions referenced. Bearings, distances and ties to easements shall also be included. Holder of easement, purpose and recordation data to be referenced. Easements whose locations are not defined of record shall be noted as such on the map.

(12) Tie to Basis of Bearings. Basis of Bearings shall be based on the California Coordinate System (NAD 83), horizontal datum, or as directed by the Public Works Director.

(13) All road names, widths, and required widenings shall be indicated on the map.

(14) All street names must be approved by the Planning/Community Development Department. Lots shall be numbered consecutively beginning with the number "1". Lots used for streets, alleys or barrier strips shall be lettered. Parcels shall be consecutively lettered beginning with the letter "A".

(15) Ground to grid factor.

(16) California Coordinate System Plane coordinates (NAD 83, Zone III, US Survey Feet) describing the boundaries of the subdivision.

(17) The difference between true north and grid north (convergence angle) and indicate where the convergence angle is taken.

(18) Common area notations required for condominium projects must appear on the map.

(19) City boundaries must appear on the map when applicable.

(20) Future street lines and original property lines must be indicated on the map.

(21) Each lot or parcel must be shown completely on one sheet. If more than one sheet is required, the first sheet of the map shall contain an index map indicating limits of property covered by each sheet.

(22) All lots or parcels shall show lot areas (net) in applicable English measurements.

(23) All roadway dedications shall be "in fee".

(24) All lots or parcels must have legal access to the public right-of-way.

(25) Final Map Subdivision number (i.e., Subdivision xxxx) assignment to be provided by the County and Parcel Map/Minor Subdivision number (i.e., MS xxx-xx) assignment to be provided by the Engineering Services Division.

(26) All easements and monuments correspond with improvement plans.

2. CHECKLIST

(A) GENERAL INFORMATION

Prior to submittal of a Final Parcel or Tract Map, a Tentative Map must have been submitted and approved. The Final Map must be submitted prior to expiration of the Tentative Map, and must be in substantial conformance with said approved Tentative Map.

If the Final Map will not be approved prior to the Tentative Map expiration date it is the Applicants responsibility to apply for a time extension with the Planning/Community Development Department.

The Final Map shall be prepared by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying.

A Final Map will not be approved until all conditions associated with the approval for the map have been satisfied, and all required public improvements have been constructed and accepted by the City, or the owner posts a sufficient bond (as outlined in the Subdivision Ordinance Chapter XI) to complete said construction and all required agreements have been executed.

State law requires the Engineer or Surveyor of Record to monument the recorded map per Article 9, “Monuments”, of the Subdivision Map Act. Prior to acceptance of a Final Map for recording, a statement signed by the Engineer of Record will be required that he/she has been retained and paid for the monumentation called for on the map, and that he/she guarantees the monumentation will be set following construction, or at a date approved by the City.

(B) PRELIMINARY TITLE REPORT

(1) Report provided must cover the entire area as shown on the final map and be no more than six (6) months old at project submittal date.

(2) Owner’s name on title report must match the name shown on the Final Map.

(3) All easements listed on the title report must be shown on the map (i.e., Signature Omissions.)

(4) The City shall receive a letter from all public entities or utilities that hold existing easements on the title report that they have no objections of the filing of the map.

(C) DEDICATIONS AND CERTIFICATIONS

The following statements are typical in general and may not be applicable in all cases. Additional information may be required.

Final Maps and Parcel maps must include the following statements as required in the Subdivision Map Act:

Owners Statement (SMA 66436)

Trustee Statement (if required, SMA 66436)

City Engineer's Statement (SMA 66450)

City Surveyor's Statement (SMA 66450)

Planning Commission Statement (SMA 66443)

City Clerk's Statement (SMA 66444)

Surveyor's Statement (SMA 66441)

County Recorder's Statement (SMA 66449)

Geotechnical Engineer Statement (SMA 66443)

(1) OWNER'S STATEMENT (All dedications shown within may not be applicable for all projects/maps.)

THE UNDERSIGNED, BEING A PARTY HAVING A RECORD TITLE INTEREST IN THE LANDS DELINEATED AND EMBRACED WITHIN THE HEAVY BLACK LINES UPON THIS MAP, DOES HEREBY CONSENT TO THE PREPARATION AND RECORDATION OF THE SAME AND DOES HEREBY OFFER FOR DEDICATION TO THE CITY OF SAN RAMON IN FEE FOR PUBLIC USE THOSE PORTIONS OF SAID LAND DESIGNATED ON SAID MAP AS *{list street name/s and applicable parcel/s}*.

THE AREAS DESIGNATED AS "PUBLIC UTILITY EASEMENT" OR "P.U.E." ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE FOR UNDERGROUND ELECTRIC, GAS, CABLE TELEVISION, AND TELEPHONE, STORM DRAIN, IRRIGATION, SEWER, WATER USE AND ANY ALL IMPROVEMENTS AND APPURTENANCES INSTALLED, INCLUDING CONSTRUCTION, ACCESS, AND MAINTENANCE EASEMENT OF THESE IMPROVEMENTS AND APPURTENANCES.

The map shows all the easements on the premises, or of record within the boundary lines of the herein embodied map as shown on the preliminary title report ORDER NUMBER *{state order number}*, dated *{state date}*, prepared by *{Company Name}.*

****NOTE: TITLE REPORT MUST BE CURRENT. TITLE REPORTS OLDER THAN 6 MONTHS WILL NOT BE ACCEPTED.**

THE UNDERSIGNED FURTHER RELINQUISHES TO THE CITY OF SAN RAMON ALL ABUTTER'S RIGHTS OF ACCESS ALONG THE PROPERTY LINES ADJACENT TO *{list complete street name}* AND *{list*

complete street name} IN THOSE AREAS DEPICTED HEREON BY THE SYMBOL ***IIIIIIIIIII***.

THE AREAS DESIGNATED "LANDSCAPE MAINTENANCE EASEMENT" OR "LME" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR FOR LANDSCAPE MAINTENANCE PURPOSES.

THE AREAS DESIGNATED "STORM DRAIN EASEMENT" OR "SDE" ARE DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR AND TO THE PUBLIC FOR PUBLIC USE FOR STORM, FLOOD AND SURFACE WATER DRAINAGE, INCLUDING CONSTRUCTION, ACCESS FOR MAINTENANCE OR WORKS, IMPROVEMENTS AND STRUCTURES, WHETHER COVERED OR OPEN, AND FOR THE CLEARING OF OBSTRUCTIONS AND VEGETATION.

THE AREAS DESIGNATED "SLOPE EASEMENT" OR "SLE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON FOR SLOPE PURPOSES.

THE AREAS DESIGNATED AS "TRAIL EASEMENT" OR "TE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON AND TO THE PUBLIC FOR MAINTENANCE, INGRESS, EGRESS AND TRAIL PURPOSES.

THE AREAS DESIGNATED "EMERGENCY VEHICLE ACCESS EASEMENT" OR "EVAE" ARE HEREBY DEDICATED TO THE PUBLIC FOR EMERGENCY VEHICLE ACCESS.

THE AREAS DESIGNATED "CONSERVATION EASEMENT" OR "CE" ARE HEREBY DEDICATED FOR USE AS PUBLIC OPEN SPACE SUBJECT TO CONSERVATION AND SCENIC VIEW EASEMENTS AS REQUIRED BY THE CONDITIONS OF APPROVAL.

THE AREAS DESIGNATED "FLOWAGE EASEMENT" OR "FE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR FOR DETENTION AND/OR CONVEYANCE OF STORM WATER AND TO MAINTAIN ADEQUATE STORAGE VOLUME FOR FLOOD PROTECTION, INCLUDING CONSTRUCTION, ACCESS OR MAINTENANCE OF WORKS, IMPROVEMENTS AND STRUCTURES, WHETHER COVERED OR OPEN, AND FOR THE CLEARING OF OBSTRUCTIONS AND VEGETATIONS.

THE AREAS DESIGNATED "STREET LIGHT EASEMENT" OR "SLE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR FOR THE INSTALLATION, MAINTENANCE, REPAIR, REMOVAL AND REPLACEMENT OF PUBLIC STREET LIGHTS AND THEIR APPURTENANCES, INCLUDING BUT NOT LIMITED TO ELECTROLIERS, FOUNDATIONS AND CONDUIT RISERS.

THE AREAS DESIGNATED "SIDEWALK EASEMENT" OR "SE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR FOR CONSTRUCTION, RECONSTRUCTION, AND MAINTENANCE OF SIDEWALKS AND APPURTENANCES AND TO THE PUBLIC FOR THE PURPOSE OF PUBLIC ACCESS.

THE AREAS OF DESIGNATED "TREE PLANTING EASEMENT" OR "TPE" ARE HEREBY DEDICATED TO THE CITY OF SAN RAMON OR ITS DESIGNEE OR SUCCESSOR FOR THE PURPOSE OF PLANTING AND MAINTAINING STREET TREES.

{Owner's Name}

BY:

{Signature} _____ _____

{Name} DATE

{Title}

(2) TRUSTEE'S STATEMENT (when required).

(3) SURVEYOR'S STATEMENT (including signature, seal, number and expiration date.)

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FILED SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCE AT THE REQUEST OF, *{Name Of Person Authorizing Map}*, ON *{Date}.* I HEREBY STATE THAT **ALL THE MONUMENTS ARE OF THE CHARACTER AND OCCUPY THE POSITIONS INDICATED OR THAT THEY WILL BE SET IN THOSE POSITIONS BEFORE** *{Date}* **AND THAT THE MONUMENTS ARE, OR WILL BE, SUFFICIENT TO ENABLE**

THE SURVEY TO BE RETRACED, AND THAT THIS FINAL MAP SUBSTANTIALLY CONFORMS TO THE CONDITIONALLY APPROVED TENTATIVE MAP.

DATE: _____ _____

{Surveyor's Name}
L.S. NO. ####
REGISTRATION EXPIRES *{Date}*

(4) CITY ENGINEER'S STATEMENT (including signature, seal, number and expiration date)

I, *{Name}*, CITY ENGINEER OF THE CITY OF SAN RAMON COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA, HEREBY STATE THAT I HAVE EXAMINED THIS MAP, ENTITLED "SUBDIVISION *{Number} {Subdivision Name}*", THAT SAID SUBDIVISION IS SUBSTANTIALLY THE SAME AS IT APPEARED ON THE TENTATIVE MAP AND ANY APPROVED ALTERATIONS THEREOF, AS APPROVED BY THE CITY OF SAN RAMON PLANNING COMMISSION ON *{Date}* THAT ALL OF THE PROVISIONS OF STATE LAW AND LOCAL ORDINANCES APPLICABLE AT THE TIME OF APPROVAL OF THE TENTATIVE MAP HAVE BEEN COMPLIED WITH.

DATE: _____ _____

{City Engineer's Name}, R.C.E. NO. ####
CITY ENGINEER
REGISTRATION EXPIRES *{Date}*

(5) CITY SURVEYOR'S STATEMENT

I, *{NAME}*, ACTING CITY SURVEYOR FOR THE CITY OF SAN RAMON, HEREBY STATE THAT I HAVE EXAMINED THIS MAP ENTITLED, "SUBDIVISION NO. _____" AND I AM SATISFIED THAT THE MAP IS TECHNICALLY CORRECT.

DATE: _____ _____

{City Surveyor's Name}, P.L.S. NO. ####
ACTING CITY SURVEYOR
REGISTRATION EXPIRES *{Date}*

(6) CITY CLERK'S STATEMENT

I, *{Name},* CITY CLERK AND EX-OFFICIO CLERK OF THE CITY OF SAN RAMON, STATE OF CALIFORNIA, DO HEREBY STATE THAT THE ABOVE AND FOREGOING MAP ENTITLED "SUBDIVISION XXX – TITLE" WAS PRESENTED TO SAID COUNCIL, AS PROVIDED BY LAW, AT A REGULAR MEETING THEREOF HELD ON THE _____ DAY OF

_____, _____, AND THAT SAID CITY COUNCIL DID THEREUPON BY RESOLUTION DULY PASSED AND ADOPTED AT SAID MEETING, (RESOLUTION NO. _____) APPROVE SAID MAP AND ACCEPTED SUBJECT TO IMPROVEMENTS ON BEHALF OF THE PUBLIC ANY STREETS, PARCELS, AND EASEMENTS SHOWN THEREON AS DEDICATED TO PUBLIC USE.

I ALSO HEREBY STATE THAT ALL AGREEMENTS AND SURETY AS REQUIRED BY LAW TO ACCOMPANY THE WITHIN MAP HAVE BEEN APPROVED BY THE CITY COUNCIL OF SAN RAMON AND ARE FILED IN MY OFFICE. IN WITNESS THERETO I HAVE HEREUNTO SET MY HAND THIS _____ DAY OF _____.

_____
{NAME}, CITY CLERK
EX-OFFICIO CLERK, OF THE CITY COUNCIL
OF THE CITY OF SAN RAMON,
STATE OF CALIFORNIA

(7) PLANNING COMMISSION STATEMENT

I, *{Name}*, PLANNING/COMMUNITY DEVELOPMENT DIRECTOR OF THE CITY OF SAN RAMON, HEREBY STATE THAT THE PLANNING COMMISSION HAS APPROVED THE TENTATIVE MAP ON _____ *{Date}* OF SUBDIVISION *{Number}* *{Subdivision Name}*, WHICH INCLUDES THIS SUBDIVISION, UPON WHICH THIS FINAL MAP IS BASED.

DATE: _____ _____
{Name}
COMMUNITY DEVELOPMENT DIRECTOR

(8) ACKNOWLEDGEMENT

STATE OF CALIFORNIA)

COUNTY OF *{County Name}*) S.S.

ON *{Date}*, 20___, BEFORE ME, *{Notarian's Name}* PERSONALLY APPEARED *{Name}* WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE) TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME IN HIS AUTHORIZED CAPACITY, AND THAT BY HIS SIGNATURE ON THE INSTRUMENT THE PERSON, OR ENTITY UPON BEHALF OF WHICH THE PERSON ACTED, EXECUTED THE INSTRUMENT.

WITNESS MY HAND,

SIGNATURE: _____

NOTARY PUBLIC IN AND FOR THE COUNTY OF: _____*{County}*_____

STATE OF: _____*{State}*_____

PRINCIPAL PLACE OF BUSINESS: _____*{County}*_____ COUNTY

COMMISSION EXPIRES: _____

(9) COUNTY RECORDER'S STATEMENT

THIS MAP, ENTITLED "SUBDIVISION *{Number} {Subdivision Name}*, IS HEREBY ACCEPTED FOR RECORDATION, SHOWING A CLEAR TITLE AS PER LETTER OF TITLE WRITTEN BY *{Title Company}*, DATED THE *{Day}* DAY OF *{Month}*, 20___, AND AFTER EXAMINING THE SAME, I DEEM THAT SAID MAP COMPLIES IN ALL RESPECTS WITH THE PROVISIONS OF STATE LAW AND LOCAL ORDINANCES GOVERNING THE FILING OF SUBDIVISION MAPS.

RECORDED AT THE REQUEST OF *{Requester's Name}* AT *{Time}* A.M./P.M. ON THE *{Day}* TH DAY OF *{Month}* , 20___ IN BOOK _____ OF MAPS, AT PAGE _____ IN THE OFFICE OF THE COUNTY RECORDER OF CONTRA COSTA COUNTY, STATE OF CALIFORNIA.

JOSEPH E. CANCIAMILLA
COUNTY RECORDER
COUNTY OF CONTRA COSTA
STATE OF CALIFORNIA

BY: _____
DEPUTY COUNTY RECORDER

(10) GEOTECHNICAL SOILS REPORT (include company name, report number and date)

A SOILS REPORT HAS BEEN PREPARED BY *{Individual or Company's Name}* PROJECT NO. *{Reference Project No.}* DATED *{Date}*, AND IS ON FILE IN THE OFFICE OF THE CITY ENGINEER OF THE CITY OF SAN RAMON, COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA.

(11) CLERK OF THE BOARD OF SUPERVISOR'S STATEMENT

I HEREBY STATE, AS CHECKED BELOW, THAT:

[ ] A TAX BOND ASSURING PAYMENT OF ALL TAXES WHICH ARE NOW A LIEN, BUT ARE NOT YET PAYABLE, HAS BEEN RECEIVED AND FILED WITH THE BOARD OF SUPERVISORS OF CONTRA COSTA COUNTY, STATE OF CALIFORNIA.

[ ] ALL TAXES DUE HAVE BEEN PAID, AS CERTIFIED BY THE COUNTY REDEMPTION OFFICER.

DATED: _____ *{Name}*_____
CLERK OF THE BOARD OF SUPERVISORS
AND COUNTY ADMINISTRATOR
COUNTY OF CONTRA COSTA
STATE OF CALIFORNIA

(12) Dedication of public service easements, public utility easements, sanitary sewer, and all other dedications of public use.

(13) Dedication of drainage, irrigation and Flood Control easements.

(14) Certificate of Dedication for same public purpose (per Subdivision Map Act 66477.5).

(15) Consent to Dedication forms executed by all existing easement holders over areas being dedicated for roadway purposes.

(16) Waiver of signatures on map from public utilities or public entities, if necessary (per Subdivision Map Act, Section 66436).

(17) Easement Dedications to be appropriately reflected in Owner's Certificate and the purpose of the easement indicated on the map, including the additional five-foot (5') public utility easement.

(18) Other certificates, statements, and acknowledgments required by statute, local ordinance, or the Public Works Director.

(D) MONUMENTATION

(1) All found monuments of record shall be tied by survey and described with tag numbers and recorded reference. Indicate "Record Data" within parenthesis for all boundary and monumentation information that differs from the field survey.

(2) Basis of Bearings shall be based on the California Coordinate System (NAD 83) horizontal datum and NAVD 29 vertical datum, or as directed by the Public Works Director, as established by the use of two (2) found monuments of record on a single line from that Record Map. The Basis of Bearings must appear in a statement and be labeled on each sheet of the map.

Datum Statement may be similar to the following:

THE BASIS OF BEARING FOR THIS MAP IS DETERMINED FROM FOUND MONUMENTS SHOWN HEREON: THE BEARING BEING *{state bearing}* BETWEEN STATION *{station no.}* AND STATION *{station no.}* AS SHOWN ON RECORD OF SURVEY PARCEL MAP XX, OR FINAL MAP XX. CALIFORNIA COORDINATE SYSTEM ZONE III (NAD 83). MULTIPLY DISTANCE AS SHOWN BY *{0.9999####}* TO OBTAIN GRID DISTANCES.

(3) Tie to basis of bearings.

(4) Tie to adjoining surveys.

(5) Monument boxes required in existing or proposed roads.

(a) Monumentation of right-of-way at B.C., E.C., angle points, and property line, if necessary, or if directed by the Public Works Director.

(6) Minimum 2" diameter, 18" long iron pipe set in concrete in a well-monument per City standards is required at all section, quarter-section and rancho corners, as well as at major street intersections.

(7) A monumented line shall be shown on all new subdivision streets, with 1" diameter, 18" long, iron pipe set in concrete, monuments set on centerline or as otherwise approved by the Public Works Director and with ties to rights-of-way.

(8) 1" diameter 18" long iron pipes are to be set at all significant boundary lines, angle points and shall be shown on the map.

(9) Other monumentation as required by the Subdivision Map Act, statute, local ordinance, requirements specified in this manual, or the Public Works Director.

(E) MATHEMATICAL ACCURACY AND GEOMETRY

(1) All bearings, distances and curve data shown to nearest one hundredth of a foot, and to nearest second.

(2) All curve data included (delta, radius length, and tangent).

(3) Radial bearing and non-tangent curve data.

(4) Sum of increments must equal the total distance or delta.

(5) Net or gross areas must be shown to nearest one hundredth of a square foot.

(6) Roadway radii shown.

(7) Street widths, setbacks and/or required widening must be shown on the map.

(8) Closure calculations must be submitted along with the Final Map. Closure calculations must close within 0.01 feet northing and 0.01 feet easting. Closure calculations must be performed for the subdivision boundary, each lot or parcel, each grouping of lots or parcels, monuments, and right-of-ways; and must close as described above. Closure calculations must agree precisely with the bearings and distances shown on the Final Map. Forced closures will not be accepted. All closures shall be correct to a minimum of 1 part in 20,000.

Chapter VI

Lot Line Adjustment, Legals and Plat and Certificate of Correction Preparation

VI

LOT LINE ADJUSTMENT, LEGALS AND PLAT AND CERTIFICATE OF CORRECTION PREPARATION

1. LOT LINE ADJUSTMENT

(A) GENERAL PROVISIONS

The Subdivision Map Act has provisions allowing minor adjustments of property lines for four (4) or fewer existing adjoining parcels to be made without the necessity of filing a parcel or final map. In order for the applicant to utilize this procedure, however, the following criteria must be met:

(1) All of the property owners of the affected parcels must consent to the Lot Line Adjustment.

(2) The adjustment may not create a greater number of parcels than existed originally.

(3) The adjustment may not reduce the size of any parcel to less than minimum development standards as set by the City of San Ramon's building and zoning ordinances.

(4) The adjustments shall not impair existing access or easements or create a need for new access or easements to adjacent parcels.

(5) The resulting changes in ownership of the affected land must be conveyed by legal document if the subject property is not held under one ownership. The adjustment may be reflected by deed and/or by a Record of Survey prepared by a Licensed Land Surveyor or qualified Registered Civil Engineer if the subject property is held under a common ownership.

(B) SUBMITTAL AND PROCESSING REQUIREMENTS (APPLICANT)

Prior to submittal of a Lot Line Adjustment, the applicant should contact the City's Engineering Services Division to verify that the adjustment will not violate any of the restrictions governing the use of this procedure. Additionally the applicant should contact the City's Planning/Community Development Department to verify that the adjustment would comply with all building and zoning ordinances. The following items must be included in the original submittal package. Applications failing to include one or more of these items will not be accepted for processing.

(1) One (1) Certificate of Compliance application form fully completed with notarized signatures from all property owners affected (Appendix G).

(2) Two (2) copies of preliminary title report on each affected parcel (current within 6 months) and any other reference material deemed necessary.

(3) Two (2) sets of legal descriptions for the original, transfer and resultant areas of all affected parcels prepared by a Licensed Land Surveyor or qualified Registered Civil Engineer.

(4) Two (2) sets of 8 ½" x 11" plat showing old and new lot lines and the transfer area prepared by a Licensed Land Surveyor or qualified Registered Civil Engineer.

(5) Location of all structures, easements, right-of-way, public streets and driveways.

(6) Name of owner(s), street address(es) and assessor's parcel number(s).

(7) Small vicinity map.

(8) Closure/Area calculations of original, transfer and resultant areas in order to verify new legal descriptions.

(9) Grant Deeds effecting property transfer.

(10) Submittal fee (please see the Current Engineering Fee Schedule located online at http://www.sanramon.ca.gov/finance/reso.html).

(11) Any other information deemed reasonable and necessary by the Public Works Director.

(12) Proof from the Contra Costa County Tax Collector that current and prior years' property taxes for all affected parcels have been paid.

(C) PROCESSING

(1) All submittals are to be made to an Engineering Services Division representative.

(2) Engineering Services Division representative will review submittal package for required information and completeness.

(3) Engineering Services Division representative distributes for plan checking to the appropriate departments if the submittal package is in order and the fees have been paid.

(4) Following notification of approval, the applicant shall submit an original legal description and plat map "wet" stamped and signed by the appropriate Land Surveyor or Civil Engineer.

(5) The City of San Ramon will coordinate with the applicant's title company to schedule recordation. The recorded document will be sent back to the City after recordation for filing and distribution.

(6) It is the applicant's responsibility to record the grant deeds in conformance with the lot line adjustment within six (6) months following the approval date by the City Engineer. Applicant to provide one copy of recorded new deeds to the City.

(D) CHECKLIST

(1) Legal and Plat Format. The lot line adjustment plat shall be drawn, printed or otherwise reproduced in a manner guaranteeing a permanent record in black ink on a sheet size of 8 ½" x 11".

(2) Legal and Plat Requirements. The plat shall be drawn to 1" = 20' scale unless otherwise approved by the Public Works Director. It shall show the following applicable information as well as any other information necessary to adequately describe the adjusted lot line.

(a) Each lot in its entirety.

(b) All bearings and distances, all curve data including the delta, radius length and radial bearing, if not perpendicular to tangent line.

(c) Areas(net and gross acreage) of existing and proposed lots and dedications. Also provide the original and resultant areas for each proposed lot at the end of each legal description.

(d) Lot numbers of the new lots.

(e) Existing lot designations such as lot number and subdivision number for affected parcels and contiguous parcels.

(f) Assessor's parcel numbers.

(g) All existing easements.

(h) Tie to basis of bearings. Basis of Bearings shall be based on the California Coordinate System (NAD 83), 1990 Adjustment or current adjustment as directed by the Public Works Director.

(i) Abutting streets and alleys showing names, centerlines, widths and monuments (with LS No. and recording map information).

(j) Old lot line shall be shown as lightly dashed and new lot line shall be shown as a solid line with dimensioning between them. Hatch-mark the transfer area and label as such.

(k) Vicinity map at a scale of approximately 1" = 200'.

(l) North arrow and scale, and bar scale.

(m) Areas to be dedicated shall be shown and clearly called out on plat.

(n) Show all structures, walls fences or trees that are located adjacent to the adjusted lot line, sufficient to determine the location of these facilities with respect to the new lot line, if the new lot line corresponds with the exception of structures. Structures adjacent to the adjusted lot line or within 20' must be shown so required setbacks can be verified.

(o) Title of Lot Line Adjustment shall include recorded map or deed information, if original parcel was created without a map. Must include the Lot Line Adjustment Number. The City of San Ramon Engineering Services Division will assign this number upon the first submittal.

(p) Depict Point of Beginning (P.O.B.) or Point of Commencement (P.O.C.) as identified in legal description.

(q) When preparing legals and plats for in fee right-of-way dedication, please use wording “In Fee” and not “Dedication” or “Right-of-Way.”

(r) When preparing legals and plats for in fee right-of-way dedication please use wording “In Fee” and not “Dedication” or “Right-of-way”.

(3) GENERAL INFORMATION

Some projects may require the Developer to obtain right-of-way or certain easements for roadway purposes, utilities, landscaping or other requirements as part of the Project Approval. It is the responsibility of the Developer to ensure all right-of-way dedications and easements are acquired and processed in a timely manner.

The legals/plats and face sheet must be reviewed by the City Engineering staff to ensure accuracy and verification it meets requirements of approval.

(4) TITLE REPORT

A title report that is current (within 6 months) must be submitted in addition to the legals and plats. The legals and plats will not be approved without a current title report, no exceptions will be made.

(5) GRANT DEED DOCUMENTS

Legals and plats shall be reviewed prior to Grant Deed documents being signed by the property owner. No property owner shall sign Deed documents prior to having the City approved legals and plats attached. It is the responsibility of the Developer to ensure the legals and plats are completed and ready for approval by the property owner. If the Grant Deeds are received prior to approval it will be returned and it will require an additional signature from the property owner once legals and plats have been reviewed and approved by the Engineering Services Division.

2. CERTIFICATE OF CORRECTION

(A) GENERAL INFORMATION

It may be necessary to file a Certificate of Correction or an Amended Map after a Final Map or Parcel Map has been recorded. A Certificate of Correction or Amended Map may be used for the following purposes:

(1) To correct an error in any course or distance.

(2) To show any course of distance that was omitted.

(3) To correct an error in the description of the real property shown on the map.

(4) To indicate monuments set after the death, disability, retirement from practice, or replacement of the engineer or surveyor charged with responsibilities for setting monuments.

(5) To show the proper location or character of any monument which has been changed in location or character originally was shown at the wrong location or incorrectly as to its character.

(6) To correct any additional information filed or recorded pursuant to Section 66434.2, if the correction does not impose any additional burden on the present fee owners of the real property and does not alter any right, title, or interest in the real property reflected on the recorded map.

(7) To correct any other type of map error or omission as approved by the Public Works Director that does not affect any property right, including, but not limited to, lot numbers, acreage, street names, and identification of adjacent record maps.

(B) FORMAT

(1) The amending map or certificate of correction must be prepared and signed by a registered civil engineer or licensed land surveyor.

(2) The amending map or certificate of correction shall set forth in detail the corrections that are being made and must show the names of all fee owners of the real property affected by the correction or omission on the date of the filing or recording of the original final or parcel map.

(3) The certificate of correction shall have a signature block for the City Engineer to sign and approve.

(C) REQUIRED DOCUMENTS

The certificate of correction shall be submitted to the Engineering Services Division for review. Reference documents shall be submitted for review, this includes the previous recorded map along with any documents that may be useful to staff.

(D) PROCESSING

Upon submittal of the Certificate of Correction, Engineering staff will review the Certificate for compliance. Upon approval, the City Engineer will sign and the City will send the Certificate of Correction or Amended Map to the title company for recordation.

Chapter VII

Grading

VII

GRADING

1. PURPOSE

It is the declared intent of the City to promote the conservation of natural resources, including the natural beauties of the land, streams and water sheds, hills and vegetation, and as described in the open-space element of the City's General Plan and Government Code Section 65560(b) (1) to protect health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding, or other special conditions as described in Government Code Section 65560(b) (4) by minimizing the adverse effects of grading, cut and fill operations, water runoff and soil erosion. Therefore, the following regulatory provisions of this Division are hereby adopted for the purpose of stringent control of all aspects of grading operations.

It is the intent of this Division to safeguard life, limb, property, and the public welfare by regulating grading on private property in the incorporated areas of the City. (Ord. No. 409, §§ 1, 2, 2008).

2. ACTIVITIES REQUIRING A PERMIT

(A) Permitted Activities

A grading permit (Site Development Permit) is required prior to any of the following grading, paving, or clearing activities:

(1) Grading Activities

(a) The grading of an area where the average slope of the area to be excavated or filled exceeds 5 to 1.

(b) The excavation, fill, or rearrangement of 50 or more cubic yards of earth material on any site. This volume shall be the aggregate of all grading or clearing operations over a 12-month period.

(c) The excavation or fill of any portion of a site that increases or decreases its elevation following the completion of grading by a height of two feet or more at any point.

(d) The diversion of rainwater runoff from an area that is greater than the impervious area threshold for new development established by the Regional Water Quality Control Board for the San Francisco Bay Area, or 2,000 square feet, whichever is smaller.

(e) The blockage or alteration of a waterway or drainageway.

(f) The excavation for the installation, removal, or repair of any underground storage tank.

(2) Clearing Activities

(a) The clearing of an area one acre in size or larger.

(b) The clearing of an area greater than 2,000 square feet with an average slope exceeding 5 to 1.

(3) Paving Activities

Construction of pavement surfacing on natural or existing grade of an area that is greater than the impervious area threshold for new development established by the Regional Water Quality Control Board for the San Francisco Bay Area, or 5,000 square feet, whichever is smaller. The Public Works Director may waive the requirement for a grading permit under this subsection when a separate improvement plan for such paving has been approved and signed by an authorized City official.

(B) Exceptions

No grading or clearing permit shall be required for:

(1) An excavation below finished grade for basements and footings of a building, mobile home, retaining wall, or other structure authorized by a valid building permit or construction permit. This shall not exempt any fill made with the material from such excavation or exempt any excavation having an unsupported height greater than five feet after the completion of such structure. This shall not prohibit a minimum fee grading permit or soil or geologic report from being required for foundation design and inspection purposes when, in the opinion of the Public Works Director, stability or flooding considerations warrant such inspection

(2) Cemetery graves

(3) Refuse disposal sites controlled by other regulations

(4) Earthwork construction regulated by the federal, state, county, or city governments, or by any local agency as defined by Government Code Sections 53090 through 53095 (Special Districts). Pipeline or conduit excavation and backfill conducted by local agencies or public utilities. Earthwork construction performed by railway companies on their operating property. This exemption, however, shall apply only when the earthwork construction takes place on the property, or dedicated rights-of-way or easements of the above agencies

(5) Excavation and backfill for installation of underground utilities by public utilities or companies operating under the authority of a franchise or public property encroachment permit

(6) Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressures upon any adjacent or contiguous property

(7) Exploratory excavations under the direction of soil engineers or engineering geologist, provided all excavations are properly backfilled. All

such excavations and trenches are subject to the applicable sections of Title 8 of the State Orders, Division of Industrial Safety

(8) The stockpiling of earth materials on a site, for temporary storage, in an amount as determined by the Public Works Director, which does not exceed thirty days in duration and does not obstruct a drainage course; (Ord. No. 409, §§ 1, 2, 2008)

(9) Work performed as interim protection under flood fighting or other emergency conditions.

3. PERMIT FORM AND REQUIREMENTS

(A) Permit Forms

To obtain a permit the applicant shall first file a written application (forms included in the Appendix).

(1) The site by lot, block and tract designation, and by a street address or similar description sufficient to readily identify the site

(2) The name and address of the owner of the site, the person who is to perform the work, and the soil and civil engineer if such work is to be performed as supervised grading. The permit shall be issued only to the owner or the owner's agent

(3) An estimate of the time schedule of work

(4) Signature and address of the applicant and owner of the real property if different from the applicant

(B) List of Required Documents and Information

The application shall be accompanied by the following material:

(1) Inspection and Plan Checking Fees. Fees may be waived if the Public Works Director finds that the scope of work does not require inspection or plan checking services; fees for utility company work may be deferred as determined by the Public Works Director until after the work is completed; fees shall be calculated in accordance with the current fee schedule.

(2) An engineer's estimate of the quantity and cost of work to be done.

(3) A Geotechnical Engineering and Geologic Reports. All or portions of this requirement may be waived by the Public Works Director for relatively small and/or flat sites or where the City can find that a conservative design will more than compensate for the lack of in-place soils data. Additional requirements of these reports are presented in Subsection C below.

(4) Erosion control plan. Three copies of an erosion control plan that defines measures that the applicant will implement to mitigate erosion and sedimentation impacts of the proposed grading activity.

(5) Stormwater water pollution prevention plan. As required by the State Water Resources Control Board three copies of a plan must be submitted that identifies appropriate storm water pollution prevention measures, or best management practices, to eliminate or reduce pollutants in stormwater discharges from the construction site both during construction and after construction is complete. In addition, the applicant must obtain a General Construction Permit from the State Water Resources Control Board.

(6) Three sets of plans shall be submitted. Plans shall be twenty-four inches by thirty-six inches and to a form as approved by the Public Works Director. The plans shall be prepared and signed by a civil engineer and shall conform to the requirements of the Grading Manual, the San Ramon design and improvement standards, plus any additional material which the Public Works Director deems necessary to show conformance of the proposed grading with the requirements of this section and other related ordinances. Detailed requirements of the plans are discussed in Subsection D below.

(7) The tree removal permit number indicating the trees which have been approved to be removed.

(8) Performance surety required. As a condition of issuing a grading permit, applicant shall post a surety bond or cash deposit.

(9) Copies of any permits that are required by the United States Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, Caltrans, or any other agency having jurisdiction over the area subject to grading or the grading activity.

(10) Copy of owner's "Notice of Intent" Storm Water Pollution Plan, submitted to the Regional Water Quality Control Board, if project encompasses ten thousand (10,000) square feet or more impervious surface for all projects within the City of San Ramon.

(11) Hydrology maps.

(12) Calculations for any hydraulic structures need to be supplied for review. Hydraulic structures include: pipes, storm drains, catch basins, drainage ditches, rip-rap, gabion and erosion control measures.

(13) Drainage acceptance and grading acceptance letters from adjacent property owners.

(14) All retaining walls required for the rough or fine grading of the site shall be depicted in detail on the plan and structural calculations submitted along with the plans.

(C) Geotechnical Engineering and Geologic Reports

A soils engineering and geologic reports shall be required for grading projects, unless otherwise waived by the Public Works Director. The reports shall include information appropriate for the site including any information required by the Public Works Director. Recommendations included in the reports and approved by the Public Works Director shall be incorporated in the grading plans or specifications. (Ord. No. 409, §§ 1, 2, 2008) The soils and geologic report required in this chapter shall be prepared by a professional soil investigation firm under the direction of a soils engineer and/or an engineering geologist, as appropriate, and shall include the following:

(1) An adequate description of the soils and geology of the site

(2) Conclusions and recommendations regarding the effect of soils and geologic conditions on the proposed development

(3) Opinions and recommendations covering the adequacy of sites to be developed by the proposed grading

(4) Data regarding the nature, distribution strength of existing soils

(5) Conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary

(6) Ground water conditions

(7) Sufficient soil samples to represent a true cross section of the cut and fill areas and of the material to be used as fill shall be taken and tested under the supervision of the soils engineer. All soils shall be classified in accordance with the Unified Soil Classification system.

(8) Field and laboratory tests of the land to be covered with fill to determine the characteristics of the soil including its expansive qualities, and bearing value of the land, consolidation potential, and a statement as to whether the land can support the proposed fill and structures.

(9) In those areas where saline or alkaline soils or other problem conditions may be encountered, sufficient information to define the problem and evaluate its solution shall be submitted to the City.

(10) Field and laboratory soil analysis of the material proposed for the fill, including its source and expansive quality and statement as to its suitability. The analysis shall also specify the optimum moisture content at which each type of proposed fill material compacts. This requirement may be postponed with approval of the City until some grading has been done to obtain good representative samples.

(11) Field and laboratory soil analysis of existing soil conditions in proposed cut locations, including expansive qualities and bearing values. If steep slopes are proposed, sufficient data concerning slope stability analysis shall be submitted.

(12) Any potential ground water condition which may affect soil strength, consolidation or slope stability shall be defined and evaluated. This is of particular importance in areas subject to vibratory or shock loadings.

(13) Proposals to replace, rework or blend, or to stabilize or modify with additives either the natural site soils or the proposed fill materials, shall be supported by appropriate laboratory analysis and other such data as may be necessary for evaluation of the proposal.

(14) The location of and effects of active faults which may affect the proposed development. The results of seismic activity on the soils as the site is proposed to be graded and on the proposed buildings, to be evaluated.

(15) A complete and detailed specification shall be prepared by the soils engineer for clearing, grubbing and all aspects of grading including utility trench backfill, with special emphasis on the depth of fill layers, compaction methods, moisture content, frequency of field density tests, and minimum density to be obtained in the field as related to laboratory tests.

(16) Shrinkage or settlement of a fill constructed in compliance with the proposed specification for controlled earthwork

(17) The safe load-bearing capacity for such controlled sites

(18) The maximum slope ratios necessary for slope stability for proposed fill and cut slopes, with the assumption of proper planting on the slope to assure freedom from erosion

(19) The movement anticipated in cut areas

(20) Any forecast of appreciable settlement shall be supported by appropriate site soils data.

(21) A complete and detailed specification shall indicate the material and methods for slope control planting and planting to return the slope to its native appearance including ground covers, trees and shrubs, with special emphasis on the following:

(a) Soil preparation, fertilization, plant material and methods of planting

(b) Initial maintenance of the plant material and slopes until a specified percentage of plant coverage is established uniformly on the cut and fill slopes

(c) A statement regarding specified slope control planting shall be prepared by the slope control specialist giving a professional opinion regarding the following:

(d) The length of time after planting in which the specified planting with the specified initial maintenance will normally produce, on the

slopes in the slope control areas, the specified percentage of plant coverage

(e) The length of time in which this specified plant coverage, without any special additional maintenance, will normally produce a coverage of permanent planting which will control erosion

The City reserves the right to require additional soils and/or geological investigation be made if it deems necessary in order to further ensure the safety and maintainability of the site.

(D) Plan Requirements

Grading plans and specifications shall be prepared in accordance with the grading requirements of this Manual and the San Ramon Grading Ordinance (Ord. No. 409, §§ 1, 2, 2008). The plans shall be prepared and signed by a civil engineer and shall contain the following items, plus.

Format:

(1) Three sets of plans shall be submitted to a form as approved by the City Engineer. Plans shall be twenty-four inches by thirty-six inches. One set of final approved plans shall be printed on mylar.

(2) PDF and Autocad files. In addition to printed sets an electronic file of the approved plans shall be provided in PDF and Autocad formats. All plans shall be referenced to California Coordinate System Plane Coordinates (NAD 83, Zone III, U.S. Survey Feet).

The plans shall contain:

(1) A vicinity sketch or other means of adequately indicating the site location, sheet index and key map and site address or location and Assessor's Parcel Number.

(2) Boundary lines of the site, north arrow, scale, and bar scale and legend on all sheets.

(3) Each lot or parcel of land into which the site is proposed to be divided.

(4) The location of any existing buildings or structures on the property where the work is to be performed and the location of any buildings or structures on adjacent land within fifty feet of the proposed work.

(5) Accurate contours showing the topography of the existing ground extending at least ten feet outside all boundary lines of the site.

(6) All of the proposed uses of the site and, if the site is to be divided, the proposed use of each lot or parcel of land.

(7) Elevations, locations, extent and slope of all proposed grading shown by contours, or other acceptable means, and location of any rock disposal areas, buttress fills, subdrains or other special features to be included in the work.

(8) Detailed plans of all drainage systems and facilities, walls, cribbing or other erosion protection devices to be constructed in connection with, or as a part of the proposed work, together with a map showing the draining area and estimated runoff of the area served by any drainage systems or facilities.

(9) The location, circumference, species and approximate elevation at the base of all trees. The design of the plans shall attempt to save wherever possible trees and other natural features of high aesthetic value. A tree care specialist shall review the trees to be saved at the site for physical condition and prepare a report setting requirements of grading and development adjacent to the saved trees. These requirements shall be incorporated into the grading plan.

(10) A statement of the quantities of material to be excavated and/or filled and the amount of such material to be imported to, or exported from, the site.

(11) A written agreement as approved by the City and signed by the owner, or his authorized agent, that a civil engineer, soil engineer and/or engineering geologist will be employed to give technical supervision or make inspections of the work, whenever approval of the plans and issuance of the permit is to be based on the condition that such professional person be so employed.

(12) Any additional material which the City deems necessary to show conformance of the proposed grading with the requirements of this section and other related ordinances.

(13) The owner's representative name, address and phone number

(14) Temporary and permanent benchmarks including their descriptions in NAD 83, Zone III US Survey Feet.

(15) General grading notes on the title sheet and specific grading notes applicable to that sheet on the remaining sheets.

(16) Project Specific conditions of approval sheet shall be shown on plans.

(17) All work within Interstate 680, other State of California right-of-way, is subject to Caltrans review and approval. Pacific Gas & Electric, Contra Costa County Sanitation District, East Bay Municipal Utility District, AT&T, East Bay Regional Park District or other agency's right-of-way is subject to their review and approval.

(18) Signature blocks for all applicable governing agencies and City departments.

REVIEWED FOR CONFORMANCE WITH CITY OF SAN RAMON STANDARDS AND REQUIREMENTS. APPROVAL FOR CONSTRUCTION IS SUBJECT TO THE INFORMATION SHOWN HEREIN. CITY OF SAN RAMON AND THE UNDERSIGNED ARE NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY EXIST ON THESE PLANS.

_____ _____
_____, P.E., CITY ENGINEER DATE
RCE NO. XXXXX
REGISTRATION EXPIRES XX/XX/XX

(19) Date drawing completed.

(20) Soil's Engineer's signature and seal with expiration date on all sheets.

(21) The volume of cut and fill needed, including those quantities generated by shrinkage, subsidence and over-excavation of pad areas, footing excavation, utility spoils as determined by the soils engineer.

(22) Show use permit number or subdivision name and tract number in all title blocks of the set of plans.

(23) Adjacent sheet numbers show. All sheets numbered consecutively. Name and number of subdivision or projection in all sheets of the rest of the plans.

(24) Give reference number for adjoining grading and improvement plans.

(25) Grading plans shall be at 20 or 30 scale. Plans will be accepted at 40 scale only if extraordinary clarification is not required to show the proposed scope of the work and when approved by the City Engineer. All sheets shall be at the same scale and orientation. North shall be toward the top or left of the standard sheet.

(26) Accurate contours showing the present topography of the grading site and adjacent property; existing and proposed contours shall be shown at intervals of one foot or less on slopes up to five percent (5%), and not more than five (5) feet on slopes in excess of five percent (5%), and shall extend a minimum of 50 feet past the limits of grading (or as required by the Public Works Director) in all directions and no less than is necessary to show the potential off-site effect to or caused by the graded site. Show all cuts and fills with continuous "daylight" line.

(27) Site development plans generally shall include the information specified along with the building pad elevation finished floor elevation, individual lot drainage pattern, adjacent land drainage, driveway size and locations, fencing, existing contours, existing trees, wells, ditches and other landmarks important in the construction of the improvements. In addition, adjacent lot grades shall be shown for a minimum of twenty-five feet (25') from the project boundary along with the direction of drainage of adjacent property. The site development plan shall conform to F.H.A. standards. When necessary, detailed section of the pad and foundation shall be included to show and clarify any special grading conditions, retained fills, special backfill, differences in grade, etc.

(28) Elevations, dimensions, locations, extents, and slopes of all proposed grading, by contours or other means, including: finish curb at points of extension of lot lines and curb return points; finish and existing grades at each principal corner for the structure or the graded pad; points of change

and grades of the pad grading; hingelines and points of change in slope of the pad or lot grading; and center of driveway elevation at property line and curb face. Elevations at all lot corners. Contours and elevations shall be on the same datum as the Tentative Map and improvement plans.

(29) Plans shall clearly show the existing and proposed overland drainage patterns and flows, including historical agricultural flows. Grading shall not block or impede the existing overland drainage from adjacent contiguous parcels. Any diversion, increased flow, or concentration of drainage runoff, requires a drainage acceptance letter from the downstream parcel owner.

(30) Adequate drainage notes and specifications. Entire lot drainage pattern and disposition of surface and roof drainage shall be shown on the plans. Roof, rear yard, patio, etc., impervious areas drainage is to be collected and conveyed in a closed pipe to provide positive drainage away from buildings to the street gutter through the curb. Swales with a minimum slope of one percent (1%) shall be provided to drain rear and side yards; grade from all structures to drainage swales shall to be a two percent (2%) minimum, sloping away from the structure, unless otherwise allowed or required by the project soils engineer. The lowest final finished floor shall be at least six inches above the crown of the nearest street or highest adjacent grade to the building.

(31) Top and toe of all cut and fill slopes.

(32) Location of any buildings, structures, driveways, drainage ditches, or elements of the project such as pool, patio, tennis court, etc., on or within 25 feet of the property where the work is to be performed.

(33) Location and height of all retaining walls (Note: Retaining walls may be made with many different materials, even wood, and shall be approved by the City.)

(34) Detailed plans of all drainage devices, walls, cribbing, or other protection devices to be constructed as part of the proposed work.

(35) How finish grades join contiguous properties and setbacks from property lines in all directions.

(36) Existing easements, streets with centerlines, sewer, storm drain, and access easements, existing and proposed.

(37) The location and species of all trees having a trunk diameter of one and a half inches (1-1/2”) or greater or, if massed, the outline of the tree mass. Trunk diameters of six inches (6”) inches or greater, measured forty-two inches (42”) above ground level shall be noted for all species.

(38) All cut and fill control specifications and/or reference to the project Geotechnical Report and the recommendations contained therein.

(39) Provisions for protecting adjacent properties and/or existing improvements during construction. Any proposed grading on adjacent parcel(s) requires a grading acceptance letter from the adjoining property owner(s).

(40) Erosion control and/or slope protection.

(41) Owner, developer or agency shall provide pad elevations one foot (1') foot above the 100-year base flood elevation as shown on the latest Flood Emergency Management Association (FEMA) flood plain maps for Contra Costa County, California. The developer shall be responsible for all necessary activities, applications, documentation and costs to amend floodplain maps for their development. The reference document is commonly known as "Letter of Map Amendment Revision" (LOMAR).

(42) Provide typical cross-sections for the boundary of the project, to depict the impact to the surrounding areas.

(E) Other Items to Be Included and Submitted with the Grading Plan(s)

(1) Copy of owner's "Notice of Intent" Storm Water Pollution Plan, submitted to the Regional Water Quality Control Board, if project encompasses ten thousand (10,00) square feet or more impervious surface for all projects within the City of San Ramon.

(2) Hydrology maps.

(3) Calculations for any hydraulic structures need to be supplied for review. Hydraulic structures include: pipes, storm drains, catch basins, drainage ditches, rip-rap, gabion and erosion control measures.

(4) Drainage acceptance and grading acceptances letters from adjacent property owners.

(5) Grading and/or drainage plans of adjacent subdivisions and land development projects.

(6) All retaining walls required for the rough or fine grading of the site shall be depicted in detail on the plan and structural calculations submitted along with the plans.

(F) Surety Requirements

A grading permit shall not be issued unless the permittee shall first post with the Public Works Director a bond executed by the owner and a corporate surety authorized to do business in the State of California as a surety. Surety is required to assure that the work, if not completed by the permittee or the permittee's successors in interest, in accordance with approved plans and specifications, will be corrected to eliminate hazardous conditions. The surety can be in the form of a cash deposit or other form allowed under the San Ramon Subdivision Ordinance. This requirement may be waived at the discretion of the Public Works Director.

On developments where progressive individual grading projects or several concurrent projects are being constructed by one owner, a continuing (blanket) bond which will cover all such projects may be accepted and the amount determined by the Public Works Director.

(1) Failure to Complete Work

In the event of failure to comply with all of the conditions and terms of the permit, the Public Works Director may order the work authorized by the permit to be completed or put in a safe condition to his or her satisfaction. The surety executing such bond or deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended in causing any and all such work to be done. In the case of a cash deposit, said deposit or any unused portion thereof, shall be refunded to the permittee.

(2) Default in Performance of Conditions

Whenever the Public Works Director finds or determines that a default has occurred in the performance of any requirement of a condition of a permit, written notice thereof shall be given to the principal and when applicable, to the surety on the bond. Such notice shall specify the work to be done, the estimated cost thereof and the period of time deemed by the Public Works Director to be reasonably necessary for the completion. After receipt of such notice, the surety shall, within the time specified, cause or require the work to be performed, or failing therein, shall pay over to the Public Works Director the estimated cost of doing the work as set forth in the notice. Upon receipt of such monies the Public Works Director may cause the required work to be performed and completed. The surety shall pay the Public Works Director actual costs in excess of the estimate amount plus a mobilization charge specified in Section C7-54. (Ord. No. 409, §§ 1, 2, 2008)

(a) Should the permittee fail to comply with the conditions of approval or repair damage upon request by the City, the City shall give written notice to the permittee and surety of the bond. The notice shall state:

i. The work to be completed and/or repairs to be made

ii. The approximate cost to perform the required work

iii. The time in which all work is to be completed

Should the required work not be completed within the time specified by the City, the City may cause such work to be done and deduct the cost thereof from any cash deposit or collect such amount from the surety.

When the grading is not performed by the contractor within the time prescribed by the grading permit, a time extension may be granted upon a showing of just cause.

Sureties or the remaining portion of any cash deposit will be released only upon satisfactory completion of the work and completion of any required warranty period. Warranty periods shall not exceed twelve months.

Performance bonds for subdivisions shall be in accordance with the requirements of this the City of San Ramon Grading and Subdivision

Ordinances (Ord. No. 409, §§ 1, 2, 2008 and Ord. No. 406, §§ 1, 2, 2008).

(G) Issuance, Expiration and Renewal

Except as provided below, every permit issued shall be valid for a period of two years from the date of issuance. If the permittee is unable to complete the work by the end of the two year period plus any extensions that have been granted, the Public Works Director may renew the grading permit on an annual basis for a fee of one-half the amount paid for the original permit provided no changes have been made in the plans and specifications since the permit was issued or last renewed. However, the Public Works Director may require at any time that grading operations and project designs be modified to address weather related problems not considered at the time the permit was issued or to eliminate a hazard.

Every permit issued shall expire if the work authorized by such permit is not commenced within ninety days from the date of such permit issuance or if the work authorized by such permit is suspended or abandoned for a period of ninety days after the work is commenced. The Public Works Director may extend or allow no more than two successive ninety day expiration periods upon written request from the applicant showing to the Public Works Director's satisfaction that circumstances beyond the control of the applicant have caused the delay provided that

(1) No changes have been made in the original plans and specification for the work

(2) The plans are in compliance with all applicable current City regulations

(3) The surety is in place for the extended period

(H) Time is of the Essence Projects

Where the applicant can demonstrate that time is of the essence in securing a grading permit, a grading permit may be issued upon approval by the Public Works Director with the concurrence of the Planning and Community Development Department Director prior to final design approval, provided that all other required approvals for the project have been obtained and are final, and provided further that any required environmental evaluation has been completed and certified. Approval in such cases shall be conditioned on satisfactory assurance, either by sufficient cash deposit or bond in a form satisfactory to the City, that in the event final design review approval is not obtained the site shall be returned to its original condition, if the altered condition of the site is unsatisfactory to the City.

(I) Subdivisions

In the case of subdivisions, the approval to proceed by the Public Works Director, after having signed grading plans and having received all required bonds, fees, agreements and deeds, shall constitute the issuance of a grading permit. Grading shall be defined as an improvement for the purposes of the subdivision improvement agreement.

(J) City Held Harmless

The permittee, permittee's contractors and agents shall indemnify and save harmless the City and all officers and employees thereof connected with the work, from all claims, suits or actions of every name, kind and description, brought for, or on account of, injuries to or death of any person or damage to property resulting from the issuance of the grading permit, construction of the work or by or in consequence of any negligence in guarding the work, use of improper materials in construction of the work, or by or on account of any act or omission by the permittee or permittee's agents. (Ord. No. 409, §§ 1, 2, 2008).

(K) Denial

The Public Works Director shall not issue a permit in any case upon finding that the work as proposed by the applicant is:

(1) Liable to constitute a hazard to property (see note 1) or

(2) Result in the deposition of debris on any public way (see note 1) or

(3) Interfere with any existing drainage course (see note 1), or

(4) Geologic or Flood Hazard: If, in the opinion of the Public Works Director, the land area for which grading is proposed is subject to geological or flood hazard to the extent that no reasonable amount of corrective work can eliminate or sufficiently reduce the hazard to human life or property, the grading permit and the building permits for habitable structures shall be denied.

(5) The Public Works Director may require plans and specifications to be modified in order to mitigate anticipated adverse environmental effects of proposed grading projects. Under circumstances where the significant adverse environmental effects of a proposed grading project cannot be mitigated, the Public Works Director may deny the issuance of a grading permit.

(6) The Public Works Director may require plans and specifications to be modified in order to make them consistent with the City's General Plan, specific plans, zoning code or other rules, regulations or conditions applicable to the project. The Public Works Director may deny the grading permit if the proposed project cannot be designed in accordance with these rules, regulations or conditions. (Ord. No. 409, §§ 1, 2, 2008

Note: If it can be shown to the satisfaction of the Public Works Director that the hazard can be essentially eliminated by the construction of retaining structures, buttress fills, drainage devices or by other means, the Public Works Director may issue the permit with the condition that such work be performed.

No permit shall be granted until all of the required data has been submitted for the application, the City Engineer has approved the plans, and all required fees have been paid.

No grading/clearing/paving permit application shall be approved or issued without compliance with the California Environmental Quality Act (CEQA) and until all other permits or approvals required to undertake the activity or use proposed on the site to be graded, cleared or paved have been granted or completed.

4. STANDARDS AND REGULATIONS

(A) Responsibility of Permittee

It shall be the responsibility of the permittee to be knowledgeable of the conditions and/or restrictions of the grading permit as outlined in applicable sections of this Division, the Engineering Design and Procedures Manual, and as contained in the approved grading plans and in the approved soil and geology reports. The permittee shall also be responsible to maintain in an obvious and accessible location on the site, a copy of the grading plans bearing the stamp of approval by the City Engineer. (Ord. No. 409, §§ 1, 2, 2008).

(B) Time of Grading Operations

Notwithstanding any other provisions of the Municipal Code, grading and equipment operations within one-half mile of a structure for human occupancy shall take place between the hours of **7:30 a.m. and 7:00 p.m. Monday through Friday**, excluding State and Federal Holidays. Saturday and Sunday grading operations shall take place between the hours of 9:00 a.m. and 6:00 p.m. The Public Works Director may, however, permit grading or equipment operations during specific hours at other times upon determining that such operations are not detrimental to the health, safety or welfare of the inhabitants of such a structure. Permitted hours of operation may be shortened by the Public Works Director's finding of a previously unforeseen effect on the health, safety or welfare of the surrounding community. (Ord. No. 409, §§ 1, 2, 2008).

(C) Adjoining Property

Prior to commencing any grading of the site, the exterior boundaries shall be marked as required by the Public Works Director. Boundary markers shall be maintained throughout the grading operation. Temporary barriers and or fencing shall be used when necessary to protect adjacent properties

(1) Support

Each adjacent owner is entitled to the lateral and subjacent support which his or her land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for the purposes of construction or improvement as provided by law. (Ord. No. 409, §§ 1, 2, 2008).

(2) Right of Entry

Whenever any portion of the work requires entry onto adjacent property for any reason, the permit applicant shall obtain a right of entry from the adjacent property owner or his authorized representative in a form acceptable to the City and shall file a copy of the fully executed right of entry with the City prior to issuance of the grading permit and/or approval of the grading plans.

(3) Height Considerations

Grading shall be designed wherever possible to be at the same elevation or below adjoining properties outside the development so as not to negate the privacy of the adjoining property owners. If it is not possible and there are adjoining properties which will be adversely affected, the developer shall be required to either move the slope onto the adjacent property owner's land replacing fences and improvements or replace the property owner's fence (if one exists) at the top of the slope and deed the slope to the property owner. The City may waive this requirement wherein the adversely affected property owner fails to negotiate for either option.

(D) Cuts and Fill Slopes

Cut and fill slopes shall be no steeper than is safe for the intended use, shall be prepared and maintained to control against erosion. Cuts and fills shall conform to the California Building Code, the soils engineer or geologists recommendations and to the following provisions:

(1) Cut and fill slopes shall be no steeper than two horizontal to one vertical.

(2) Where slopes are steeper than five horizontal to one vertical, the surface to receive fill shall be benched into stable bedrock or other stable competent material.

(3) All fills shall be compacted to a minimum of ninety percent of maximum density as determined by the ASTM D1557. Field density shall be determined by a method acceptable to the City.

(4) The faces of cut and fill slopes shall be prepared and maintained to control against erosion and to return the slope to its natural appearance as near as possible. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. The planting shall be so timed that ground covers will not be washed out by rains or burned due to lack of water. Where necessary, check dams, cribbing, rip rap and other devices or methods shall be employed to control erosion and to provide safety.

(E) Setbacks

The tops and toes of cut and fill slopes shall be set back from property lines and structures as far as necessary to provide for safety of adjacent property, safety of pedestrians and vehicular traffic, required contour grading, adequate foundation support, required swales, berms and drainage facilities and applicable zoning

requirements. Grading shall be designed so that lot lines are at the top of slope and with adequate property line setback from the slope to provide for required vertical slope rounding.

(F) Drainage and Terracing

Grading shall be conducted as to alter the established gradient of natural drainage channels as to cause erosion or flooding.

Terraces at least eight feet in width shall be established at not more than thirty-foot vertical intervals, subject to maximum height limitations, to control surface drainage and debris on cut or fill slopes. Suitable access shall be provided to permit proper cleaning and maintenance.

Unless otherwise approved, swales or ditches on terraces shall: a) have a minimum gradient of two percent b) have a minimum depth of 9-inches at the center, c) minimum paved width of thirty-two inches and d) conform to City of San Ramon Standard Detail SD-11. A single run of swale or ditch shall not collect runoff from a tributary area exceeding fifteen thousand square feet (projected) without discharging into a down drain.

All drainage facilities shall be designed to carry waters to the nearest practical drainage way approved by the City and/or other appropriate jurisdiction as a safe place to deposit such waters. If drainage facilities discharge onto natural ground, rip rap and/or energy dissipaters shall be constructed.

All building sites shall be graded and sloped away from the building foundation with a minimum slope of two percent for a distance of ten feet on all sides of every building except where yard requirements are less than twenty feet, in which case the soil shall be graded away from the foundation to a minimum of two-tenths of a foot in elevation at a distance not less than one-half the required yard width. Lot drainage shall be directed toward approved drainage facilities at a minimum gradient of two percent.

Properly designed trash racks shall be installed on the upstream end of storm drain pipes where that pipe accepts drainage from a waterway which is not to be undergrounded. These racks are to be constructed so as to preclude large debris and small children from being pulled into the pipe from heavy storm flows. The City may require the installation of trash racks at other locations as deemed necessary for proper maintenance and safety.

(G) Site Dust Control

The movement of earth materials in excess of fifty cubic yards either within, to, or from a site located within one-half mile of a structure for human occupancy shall require the periodic implementation of dust control measures. On projects as determined by the Public Works Director, a water truck shall be continuously present on-site to assure maximum control. Dust control measures will comply with the requirements of the Bay Area Air Quality Management District. (Ord. No. 409, §§ 1, 2, 2008)

(H) Import and Export of Earth Material

Cut and fills shall be designed to balance as near as possible to avoid the nuisances created by off-site hauling. If off-site hauling is determined necessary by the City, details of the hauling operation including, but not limited to, size of trucks, haul route, dust and debris control measures, and time and frequency of haul trips shall be submitted to the City for approval. The City shall be empowered to place such restrictions as it deems necessary to minimize health, safety and general welfare problems which might arise from this hauling. On project sites where earth materials are moved on public roadways from or to the site, all the following requirements shall apply:

(1) Either water, dust palliative or both, or other measures required by the Regional Water Quality Control Board must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from or to the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for hauling purposes in a condition free of dust, earth or debris attributed to the grading operation.

(2) Loading and transportation of earth from or to the site must be accomplished within the limitations established in Section C7-43 of the Grading Ordinance.

(3) Access roads to the premises shall be only at points designated on the approved grading plan.

(4) The last fifty feet of the access road, as it approaches the intersection with the public roadway, shall have a grade not to exceed three percent. There must be a three hundred foot clear, unobstructed sight distance to the intersection from both the public roadway and the access road. If the three hundred foot sight distance cannot be obtained, flagmen shall be posted.

(5) A stop sign conforming to the requirements of the California Vehicle Code shall be posted at the entrance of the access road to the public roadway.

(6) Traffic control measures shall be implemented pursuant to a traffic control plan submitted and approved by the Public Works Director prior to start of grading operations. The traffic control plan shall be consistent with the Work Area Traffic Control Handbook - WATCH Manual of the American Public Works Association and the Manual of Uniform Traffic Control Devices

(7) The quantity of import/export shall be shown on the grading plan, including the calculations on how it was obtained, including raw cut, raw fill, shrinkage, subsidence, footing spoils, and utility spoils.

(8) Import or export material shall not be stockpiled on site more than five (5) working days prior to its ultimate placement or removal from the site, unless otherwise approved by the Public Works Director.

(9) Loading and transportation of earth to or from the site shall be conducted during the time frame directed by the Public Works Director.

(10) The applicant's failure to dispose of any import/export material within the stated time frame may result in the suspension or revocation of the permit at the discretion of the Public Works Director.

(I) Stockpiling

Stockpiling of materials shall be subject to City approval and shall be removed or relocated when required for public health or safety.

(J) Haul Routes

The Contractor's proposed haul route shall be submitted for review and approved by the Public Works Director for any site requiring import/export of any earth materials. This will serve to prevent the use and congestion of public rights-of-way which cannot adequately support this type of traffic. No grading permits shall be issued until the proposed haul routes have been reviewed and approved. The Public Works Director shall be notified if any alternate route will be used. This alternate shall not be utilized until such time that it is approved. Failure to obtain approval of proposed or alternate haul routes may result in a fine, or the suspension of the grading permit, at the discretion of the Public Works Director.

(K) Finished Pads

All building site pads shall be graded to provide drainage to a street, natural watercourse, approved flood control channel or conduit or public easement for drainage purposes as approved by the City.

(L) Water Well Abandonments

Upon determination that a water well on the property, whether currently functional or not, is located on the property, is affected by proposed grading operations, measures shall be taken to formally abandon the well as part of grading operations. The abandonment procedures shall be in compliance with Contra Costa County Health Department requirements (and all standards of Bulletin 74 of State of California Department of Water Resources).

The top of the well shall mean to be the existing grade if the site is to be filled and the proposed grade in the event of a cut. (Ord. No. 409, §§ 1, 2, 2008).

(M) Erosion Control and Stormwater Pollution Prevention

(1) Erosion Control System

(a) The faces of cut and fill slopes and project site shall be prepared and maintained to control against. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted upon approval by the Public Works Director.

(b) Where necessary, temporary and/or other devices such as desilting basins, check dams, riprap or other devices or methods,

as approved by the Public Works Director, shall be employed to control erosion and provide safety during the rainy season from October 15th to April 15th. The plan must be approved or waived by the Public Works Director and all measures necessary to implement the plan in place before October 15th if grading is to be allowed between October 15th and April 15th.

(c) No grading work will be allowed between October 15th and April 15th on any single grading site under permit unless an erosion control system has been approved or waived by the Public Works Director per Section C7-67. (Ord. No. 409, §§ 1, 2, 2008).

(2) Erosion Control and Stormwater Pollution Prevention Plans

(a) Erosion control plans prepared in accordance with this section shall be submitted to the Public Works Director for approval by September 1st each year for projects under a grading permit. The erosion control plan may be waived for grading projects on single residential lot projects providing that an erosion control system, meeting the approval of the Public Works Director has been installed, placed, planted or constructed before October 15th. (Ord. No. 409, §§ 1, 2, 2008).

(b) Stormwater pollution prevention plans in accordance with this section shall be submitted to the Public Works Director for approval at the time of application submittal by September 1st each year for projects under a grading permit. The plans shall detail how the proposed work will comply with the criteria in the most recent version of the Contra Costa Clean Water Program Stormwater C.3. Guidebook.

(3) The contractor and permittee or project owner shall be responsible for continual maintenance of all erosion control devices during the rainy season. The Public Works Director may require that erosion control be maintained at other times outside the rainy season. In the event of failure or refusal by the contractor, permittee or project owner to properly maintain the devices, the Public Works Director may cause emergency maintenance work to be done to protect adjacent private and public property. The cost shall be charged to the owner and shall include an initial mobilization cost plus the cost of doing the work as provided in Section C7-54 of the Grading Ordinance.

(4) In the event the Public Works Director must cause emergency maintenance work to be done, he or she may revoke the grading permit in writing. The permit shall not be renewed until an erosion control system approved by the Public Works Director is installed, payment for costs incurred by the City have been made and a fee of one-half the amount required for the original permit paid by the owner. The Public Works Director may waive installation of an erosion control system after April 15th.

(5) If any grading subject to has commenced on private property without a valid grading permit, the property owner may be required to prepare and implement an erosion control plan approved by the Public Works Director. Compliance with this provision does not relieve the property owner from responsibility or liability for the grading violation. If the property owner fails to install the approved erosion control system by October 15th, the Public Works Director may cause emergency work to be done to protect adjacent private and public property during the October 15th through April 15th winter season. The procedures of Section C7-28 shall not apply to such emergency work. Cost of the emergency work shall be charged to the property owner in accordance with Subsections A and B above. (Ord. No. 409, §§ 1, 2, 2008).

(N) Excavation Blasting Permit

No person shall possess, store, sell, transport or use explosives and blasting agents to do any excavation without a permit from the San Ramon Valley fire protection district. (Ord. No. 409, §§ 1, 2, 2008).

5. INSPECTIONS AND REPORTING

(A) Inspections

All work for which a permit is required shall be subject to inspection. This includes inspections deemed necessary by the Public Works Director to determine that adequate control is being exercised by the professional consultants.

(B) Civil Engineer of Record

It shall be the responsibility of the civil engineer of record, who prepares the grading plan approved by the Public Works Director, to incorporate all recommendations from the soils engineering and engineering geology reports into the grading plan. The civil engineer of record shall also be responsible for the professional inspection and written certification of the grading within the his or her area of technical specialty. During grading operations, all necessary reports, compaction data, soil engineering and engineering geology recommendations shall be submitted to the civil engineer and the City by the soils engineer and the engineering geologist. The civil engineer shall act as the coordinating agent for liaison between the other professionals, the contractor and the City. The project's civil engineer shall also be responsible for the preparation of revised plans, erosion control plans, and the submission of as-graded grading plans when required by the Public Works Director upon completion of work.

The soils engineer's area of responsibility shall include, but need not be limited to, the professional inspection and certification concerning the preparation of ground to receive fills, testing for required compaction, stability of all finish slopes and design of buttress fills and the design and need for subdrains and other ground water control devices where required, incorporating data supplied by the engineering geologist.

The engineering geologist's area of responsibility shall include, but need not be limited to, professional inspection and certification of the adequacy of natural

sloped for receiving fills, the stability of natural and cut slopes with respect to geological matters, the activity of faults and the establishment of appropriate setbacks from active or potentially active faults. He shall report his findings to the soils engineer and the civil engineer for engineering analysis.

Prior to foundation work, the civil engineer of record shall certify in writing that the building pad elevations do not vary more than two-tenths of a foot from the approved pad elevations.

(C) Notice of Non-compliance

If, in the course of fulfilling their responsibility the civil engineer, the soil engineer, the engineering geologist or the testing agency finds that the work is not being done in conformance with the provisions of the approved specifications and grading plans, the discrepancies shall be reported immediately in writing to the person in charge of the grading work and to the Public Works Director. Recommendations for corrective measures, if necessary, shall be submitted to the owner. The owner shall submit two copies of all recommendations and reports to the Public Works Director. (Ord. No. 409, §§ 1, 2, 2008).

(D) Transfer of Responsibility

If the civil engineer, the soil engineer, the engineering geologist, the testing agency or the grading contractor of record are changed during the course of the work, the work shall be stopped unless:

(1) At least 5 working days prior to the transfer of responsibility the owner advises the Public Works Director in writing of the proposed change

(2) The new responsible professional submits in writing that he or she has reviewed all prior reports and/or plans (specified by date and title) and work performed by the prior responsible professional and that he or she concurs with the findings, conclusions and recommendations, and is satisfied with the work performed. He or she may modify or revise recommendations, specifications or work performed if accompanied by supporting data and approved, by the Public Works Director. He or she must state that he or she assumes all responsibility within his or her purview as of a specified date. All exceptions must be justified to the satisfaction of the Public Works Director.

Exception: Where clearly indicated that the firm, not the individual engineer and/or geologist, is the contracting party, the designated engineer or geologist may be reassigned and another engineer and/or geologist within the firm may assume responsibility. (Ord. No. 409, §§ 1, 2, 2008).

(E) Site Inspection

Prior to the approval of any building or grading plans and specifications, the Public Works Director may inspect the site to determine that the plans and specifications are current and reflect existing conditions.

The permittee or the permittee's agent shall notify the Public Works Director when the grading operations specified in this article are ready for inspection.

If the inspector finds the soil or other conditions not as stated in the approved plans and soil or geology reports or as in additional information which was required for issuance of the grading permit, he or she may, using reasonable judgment, refuse to allow further work until approval is obtained for a revised grading plan which will conform to the conditions.

Prior to the issuance of building permits for a graded site, the rough grading shall be completed in accordance with this Division and to the satisfaction of the responsible engineer or architect, engineering geologist, soil engineer and the Public Works Director.

Whenever any work on which inspections are required is covered or concealed by additional work without first having been inspected, the Public Works Director may require by written notice, that such work be exposed for examination. The work of exposing and recovering shall not entail or be subject to expense by the City. (Ord. No. 409, §§ 1, 2, 2008).

(F) Special Inspections

The Public Works Director may establish special inspection requirements in accordance with the California Building Code, as amended for special cases involving grading or paving-related operations. Special cases may apply to work where in the opinion of the Public Works Director it is necessary to supplement the resources or expertise available for inspection. (Ord. No. 409, §§ 1, 2, 2008). Periodic density tests made by the soils engineer shall be submitted to the City. Dry density, moisture content and the location, elevation and sampling date of each sample taken shall be reported, along with sufficient data to correlate with laboratory analyses submitted.

(G) Final Reports

Upon notification that the work authorized by a permit has been completed, a Final Grading Report shall be prepared unless this requirement is explicitly waved. The engineer who prepared the Grading Plan shall provide all of the following information in hard copy and approved electronic format:

(1) An as-graded grading plan prepared by the civil engineer including original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and locations and elevations of all surface and subsurface drainage facilities

(2) Review the work performed pursuant to such plan

(3) Verification and a statement that the work performed has been accomplished as set out in the Grading Plan or prepare and submit a record plan and statement in regard to the adequacy of the work as actually built

(4) Verification of the line, grade, and drainage of the site

(5) A final description of the geology of the site and any new information disclosed during grading and the effect of same on recommendations incorporated in the approved grading/clearing permit

(6) The engineering geologist's professional opinion as to the adequacy of the site for the intended use as affected by geologic factors

(7) A description of all work performed, to include compaction test results, and discussion of subdrains and a map thereof (an as built map including elevation data is to be provided in Autocad format)

(8) The results of tests, including locations and elevations of field and laboratory tests and other substantiating data and comments on any changes made during grading and their effect on the recommendations made in the Preliminary Soils Report

(9) A soils engineer's opinion as to the adequacy of the work completed, the conformance with plans and specifications, and the adequacy of the site for its intended use

(H) Notification and Certification of Completion

The permittee or the permittee's agent shall notify the Public Works Director when the grading operation is ready for inspection. All work including installation of all drainage facilities and their protective devices and all erosion control measures must be completed in accordance with the final approved grading plan and the required reports approved by the Public Works Director before final approval of the grading permit is given by the Public Works Director. The Public Works Director may approve the grading work prior to completion of all work in special cases of extreme hardship and if no hazard exists and an adequate bond is posted to assure completion of all remaining work. (Ord. No. 409, §§ 1, 2, 2008).

Prior to foundation work, the permittee's engineer shall certify that the building pad elevations do not vary more than two-tenths of a foot from the approved pad elevations.

The City, upon at least twenty-four hours' notification from the permittee or his agent, shall inspect the work at the following stages of the work and shall either approve the portion then completed or shall notify the permittee or his agent wherein it fails to comply with the requirements of this chapter:

(1) Initial. When the site has been cleared of vegetation and unapproved fill and has been scarified, benched or otherwise prepared and before any fill is placed

(2) Rough. When rough grading has been completed and approximate final elevations have been established; drainage terraces, swales and other drainage devices graded ready for paving; and berms installed at the top of slopes

(3) Final. When work has been completed, all drainage devices, systems and facilities installed and slope planting established, the civil engineer shall certify that all grading lot drainage and drainage facilities have been completed and the slope planting installed in conformance with the approved plans and the requirements of this chapter. In addition to the inspections specified in this section, the City may make such other

inspections as it deems necessary to determine that the work is being performed in compliance with the requirements of this chapter.

The Public Works Director shall issue a Certificate of Completion when he or she has determined that all work authorized by the permit, including but not limited to the installation of required drainage facilities and their protective devices, completion of all required erosion control measures in accordance with the conditions of the permit, and submittal of all required reports has been completed.

6. ENFORCEMENT AND PENALTIES

(A) Violations and Penalties

(1) It shall be unlawful for any person, firm or corporation to do grading in the City, or cause the same to be done, contrary to or in violation of any of the provisions of this Division.

(2) The issuance of a building permit, performance of building permit inspections, or issuance of a certificate of use and occupancy may be withheld for property on which a violation of the provisions of this Division exist. Furthermore, any of such permits or certificates may be suspended or revoked upon determination by the Public Works Director that work has not been done in compliance with this Division.

(3) Any person, firm or corporation violating any of the provisions of this Division shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Division is committed, continued or permitted (Ord. No. 409, §§ 1, 2, 2008).

(B) Nuisances

The provisions of this Division shall not be construed to authorize any person to maintain a private or public nuisance upon their property, and compliance with the terms of this Division shall not be a defense in any action to abate such nuisance. (Ord. No. 409, §§ 1, 2, 2008). The following shall constitute a public nuisance and shall be abated as such:

(1) Any grading or clearing without a permit where same is required by this article

(2) Any grading or clearing or other work that fails to comply with the conditions of a permit issued pursuant to the provisions of this article

(3) The hazardous instability or potential excessive erosion of slopes that threaten the safety of persons or property, whether resulting from natural conditions or grading or clearing activities

(C) Other Laws

Neither this Division nor any administrative decision made under it:

(1) Exempts the permittee from procuring other required permits or complying with the requirements and conditions of such a permit

(2) Limits the right of any person to maintain, at any time, any appropriate action, at law or in equity, for relief or damages against the permittee arising from the permitted activity. (Ord. No. 409, §§ 1, 2, 2008).

(D) Stop Work Orders

Whenever any building or grading work is being done contrary to the provisions of this Division, the Grading Manual, or the conditions of a permit issued under this Division, the Public Works Director may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop such work until authorized by the Public Works Director to proceed with the work. (Ord. No. 409, §§ 1, 2, 2008).

(E) Hazardous Conditions

(1) Hazardous Conditions. Hazardous conditions exist when the state of any natural ground, natural slopes, excavation, fill or drainage device, all of which exist on private property, is a menace to life or limb, or a danger to public safety, usability or stability of adjacent property, structures or public facilities.

(2) Examinations by Public Works Director. The Public Works Director may examine or cause to be examined every condition reported as hazardous as set forth in subsection A of this section.

(3) Notice of Hazardous Condition. In any case where a hazardous condition is found, the Public Works Director shall give notice, setting forth the finding to all owners of the property affected by the hazardous condition, authorized representative of the owners or a permittee under any active permit which gives permittee control of the property issued pursuant to this Division hereinafter referred to as "owner," of such required corrective work. The notice may state the time and place of a hearing to be held if the owner fails to comply with any demand for corrective work or reports. The purpose of the hearing would be for the presentation of evidence concerning the hazardous conditions and demand for corrective work or submission of reports. The notice shall set forth the right of the owner to be present and to submit relevant evidence at the hearing. If the time and place of any hearing scheduled for the presentation of evidence is not included in the initial notice(s), it shall be included in a subsequent notice. The notice shall be mailed by certified mail and posted in a prominent location on the property.

(4) Evidence. At the time and place so specified for the hearing, evidence shall be submitted as to the facts of any condition as to reasonably establish its existence, and the Public Works Director or the Public Works Director's designee, as hearing officer, shall determine whether the facts presented reasonably establish the existence of a hazardous condition to the satisfaction of the hearing officer. Evidence may further be submitted

as to the work or reports considered necessary to correct or determine work to correct such hazard.

Exception. Where City property or facilities are endangered by the hazardous condition found by the Public Works Director, at the request of the owner, the hearing shall be held before a hearing officer appointed by the City Council. The owner or Public Works Director may appeal such hearing officer's order as set forth in this section.

(5) Order, Finality and Appeal. Upon determining the existence of a hazardous condition, the hearing officer shall determine whether such hazards are subject to corrective work and/or the need for more analysis through the preparation of reports and shall order such work or reports and specify a completion time.

(a) Finality of Order. The determination and order may be made orally at the hearing and shall be written and transmitted to the owner within a reasonable time. The determination and order shall become final within ten days, excluding Saturdays, Sundays and holidays, from the time it is first rendered; in the event that the owner was not present at the hearing, within ten days of the mailing of the order to the last known address of said owner.

(b) Appeal. The owner or the Public Works Director may, at any time prior to the determination and order becoming final, appeal in writing the decision of the Public Works Director or hearing officer to the City Council. The City Council shall fix a time and place and hold a hearing, consider the evidence and make a determination as set forth in Section C7-29 of the Grading Ordinance. The order of the City Council shall be immediately final.

(6) Completion of Work. The owner shall, following the finality of the determination and order of the hearing officer, or if appealed, the determination and order of the City Council, commence the corrective action ordered or preparation of reports and such work or submissions shall be completed within the specified time.

(7) Failure to Complete Work. If the owner neglects or fails to complete the corrective work or submit the reports ordered by the hearing officer within the specified time, the Public Works Director may: (1) cause the work to be performed or reports to be prepared, or (2) advise the owner of the need for corrective work and warn him/her that in the absence of such corrective work, subsequent future hazards may occur which could result in an order to vacate the premises. Nothing in this subsection shall be construed to limit the type of remedy or relief which the Public Works Director may have under any provision of law.

(8) Costs. Costs incurred by the City to perform any corrective work or prepare reports under subsection G of this section shall be charged to the owner. The Public Works Director may apply to the City Council to cause the costs to be paid and levied as a special assessment against the property and collected in a manner provided for special assessments.

(9) Vacation of Property. If necessary, the notice and order in subsection (C) or (E) of this section shall include the requirement that the property, a portion thereof or adjacent sites be vacated within a specified time, in the interest of public safety, pending the finality of any determination and order or completion of corrective work.

7. DEFINITIONS

For the purposes of this Design and Procedures Manual, the definitions listed under this section shall be construed as specified in this section.

"Approval" means written engineering or geological opinion by the responsible engineer, geologist of record or responsible principal of the engineering company concerning the progress and completion of the work unless it specifically refers to the City Engineer.

"Approved plans" means the current grading plans which bear the stamp of approval by the City Engineer or the City Engineer's representative.

"Approved testing agency" means a facility whose testing operations are controlled and monitored by a registered civil/soil engineer and which is equipped to perform and certify the tests required by this Division, or the Grading Manual, as determined by the Public Works Director.

"Borrow" means earth material acquired from an off-site location for use in grading on a site.

"Civil engineer" means a professional engineer registered in the State of California to practice in the field of civil engineering.

"Civil engineering" means the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials for the evaluation, design and construction of civil works for the beneficial uses of mankind.

"Clearing, brushing and grubbing" means the removal of vegetation (grass, brush, trees and similar plant types) by mechanical means.

"Compaction" means the densification of a fill by mechanical means.

"Competent material" means earth material capable of withstanding the loads which are to be imposed upon it without failure or detrimental settlement as certified by the soils engineer.

"Contour rounding" means the rounding of cut and fill slopes in the horizontal plane to blend with existing contours or to provide horizontal variation, to eliminate the artificial appearance of slopes.

"Earth material" means any rock, natural soil or fill and/or any combination thereof.

"Engineering geologist" means a geologist certified in the State to practice engineering geology.

"Engineering geology" means the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

"Erosion" means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

"Erosion control system" means a combination of desilting facilities and erosion protection, including effective planting, to protect adjacent property, watercourses, public facilities and receiving waters from deposition of sediment or dust.

"Excavation" means the mechanical removal of earth material.

"Fill" means a deposit of earth material placed by artificial means.

"Grade" means the vertical location of the ground surface.

> "Natural grade" means the ground surface unaltered by artificial means.
>
> "Existing grade" means the ground surface prior to grading.
>
> "Rough grade" means the stage at which the grade approximately conforms to the approved plan.
>
> "Finish grade" means the final grade of the site which conforms to the approved plan.

"Grading" means any excavating or filling or combination thereof.

"Grading contractor" means a general engineering contractor licensed and regulated by the State who specializes in grading work or is otherwise licensed to do grading work (A-B license).

"Grading permit" means an official document or certificate issued by the Public Works Director or official authorizing grading activity as specified by the plans and specification.

"Hillside site" means a site which entails cut and/or fill grading of three feet or more in vertical height below or above natural ground; or a combination fill-over-cut slope equal to or greater than five feet in vertical height; or where the existing grade is fifteen percent or greater; and which may be adversely affected by drainage and/or stability conditions within or from outside the site, or which may cause an adverse effect on adjacent property.

"Inspector" means a person with experience in grading operations who represents the City and enforces the provisions of this Division.

"Key" means a designated compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

"Manual of Standards" means the latest version of the Manual of Standards for Erosion and Sediment Control Measures, prepared by the Association of Bay

Area Governments, a copy of which is on file in the Engineering Services Division.

“Owner” means a person, agency, firm or corporation having a legal or equitable interest in a given real property.

“Permittee” means an applicant who has successfully acquired a valid grading permit.

“Precise grading permit" means a permit that is issued on the basis of approved plans which show the precise structure location, finish elevations and all onsite improvements.

“Rainy Season” means the period between October 15 and April 15 of the following year.

“Rough grading permit" means a permit that is issued on the basis of approved plans which need not show a structure location but must show interim building pad drainage to the degree required by the Public Works Director.

“Shear keys" means excavations made into undisturbed ground or "bedrock," at least one foot beneath the deepest zone of soil development. Keys should be checked for depth adequacy by the soil engineer or engineering geologist before backfill operations commence.

“Slope” means an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

“Soil” means naturally occurring surficial deposits overlying bedrock.

“Soils engineer" means an engineer duly registered in the State of California whose field of consulting expertise is soil mechanics.

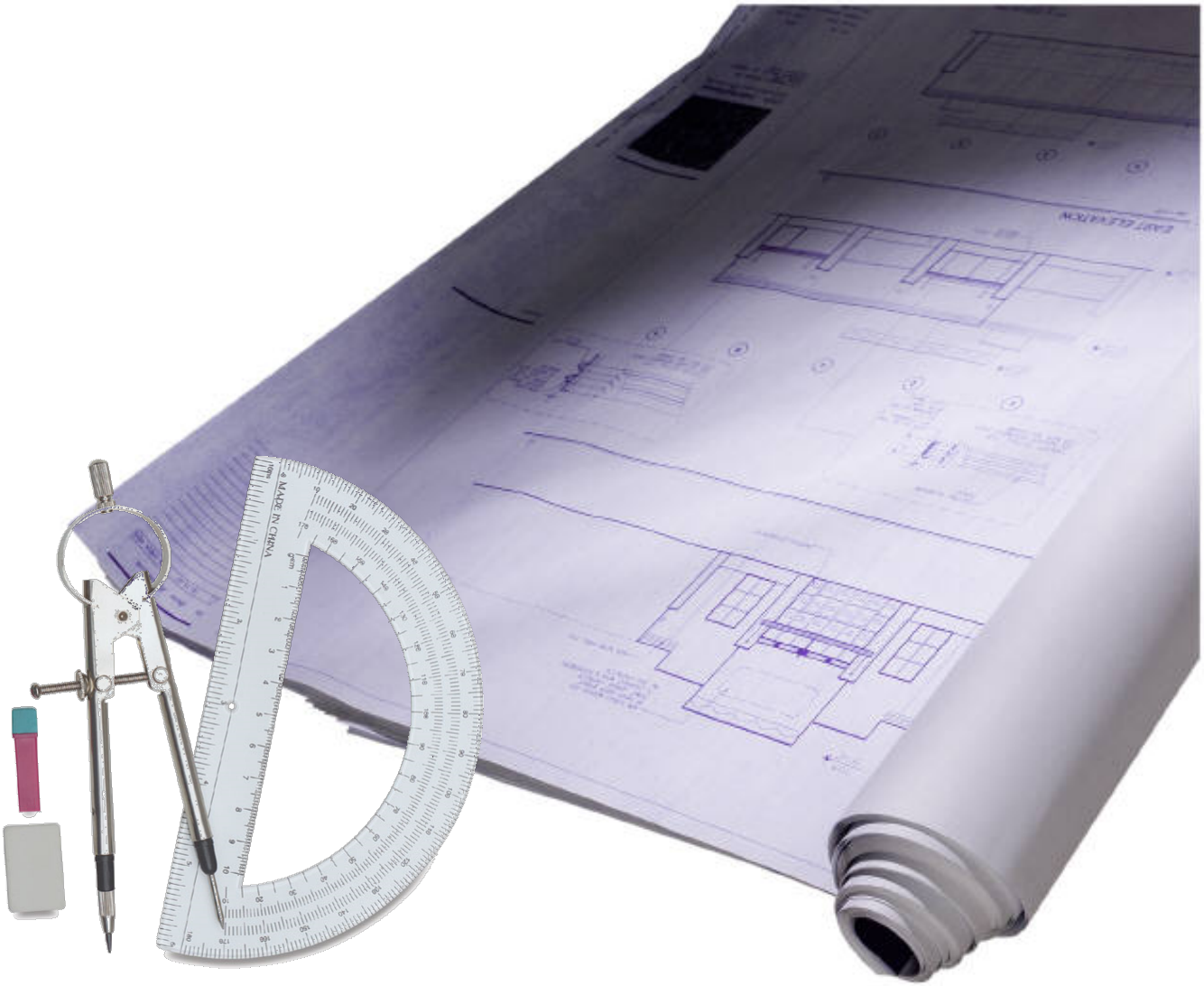
“Soil engineering" means the application of the principles of soil mechanism in the investigation, evaluation and design of civil works involving the use of earth materials and inspection and testing of the construction thereof.

“Terrace” means a relatively level step constructed in the face of graded slope surface for drainage and maintenance purposes.

“Vertical slope rounding" means the rounding of the top and toes of cut and full slopes. (Ord. No. 409, §§ 1, 2, 2008)

Chapter VIII

Improvement Plans



VIII

IMPROVEMENT PLANS

(CONSTRUCTION, TRAFFIC, LANDSCAPE AND IRRIGATION, SOUND AND RETAINING WALLS)

1. PLAN REQUIREMENTS

Improvement plans shall be drawn, printed, or otherwise reproduced in a manner guaranteeing a permanent record in black ink. The plans shall be prepared on 4 mil. photo mylar (reverse reading with matte surface up), having an overall size of 24 inches by 36 inches. Every plan sheet shall be wet-signed, with seal or stamp and expiration date, by the responsible design engineer. Submittals that are not signed and sealed will not be accepted for plan check.

A one-inch margin shall be left on each plan sheet edge, leaving an interior sheet size of 22 inches by 34 inches. No writing or marking of any type shall be inserted within the one-inch margin. The border shall be black indelible line having a thickness of 1/16". All sheets shall be at the same scale and orientation. North shall be toward the top or left of the standard sheet.

Improvement plans for public and private development projects shall be prepared in accordance with the Engineering Design Standards and submitted to the City Engineer for plan check and approval.

(A) GENERAL INFORMATION

(1) Key Map with legend at 1" = 100'; sheet index and legend.

(2) Project address or location and assessor's parcel number.

(3) Vicinity map showing project location.

(4) North arrow, scale, and bar scale on all sheets.

(5) General construction notes on title sheet and construction notes applicable to that sheet on remaining sheets (referencing City of San Ramon Standard Plan numbers).

(6) Project Specific Conditions of Approval.

(7) Signature blocks for all applicable governing agencies and City Departments (City Engineer for all improvements)

The City Engineer’s signature block shall appear on the cover sheet of each plan set as follows:

REVIEWED FOR CONFORMANCE WITH CITY OF SAN RAMON STANDARDS AND REQUIREMENTS. APPROVAL FOR CONSTRUCTION IS SUBJECT TO THE INFORMATION SHOWN HEREIN. CITY OF SAN RAMON AND THE UNDERSIGNED ARE NOT

RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY EXIST ON THESE PLANS.

_____ _____
_____, CITY ENGINEER DATE
RCE NO. xxxxx,
REGISTRATION EXPIRES XX/XX/XX

(8) Temporary and permanent benchmarks including their descriptions, in conformance with NAD 83 Zone III, US Survey Feet horizontal datum and NAVD 88 vertical datum.

(9) Plan view showing the entire street right-of-way layout (Scale 1" = 100') proposed water and sewer mains, storm drainage system, lot numbers, streetlights, flow arrows, and other miscellaneous improvements to be installed. Show pipe sizes.

(10) Standard title block located along lower edge to include essential information including project name and number, type of plan, designer, location, and date.

(11) Date drawing completed.

(12) Typical street sections for each varying street width.

(13) Owner's representative name, address, and telephone number (title sheet).

(14) Design Engineer's name, address and telephone number (title sheet).

(15) Show use permit number, or subdivision name and tract number (on title block of all sheets).

(16) Affected utility companies shall be tabulated showing name of utility, address, phone number, and contact person.

(17) Listing of owner's representatives to be contacted in the event of an "Emergency" and their 24-hour telephone numbers.

(18) Adjacent sheet numbers shown. All sheets numbered consecutively.

(19) Scale – Horizontal scale shall be 1" = 40' and vertical scale shall be 1" = 4'. The City Engineer shall approve other scales in writing, in advance.

(20) General and special notes relating to construction methods.

(21) All work within Interstate 680 or other State of California right-of-way is subject to Caltrans review and approval. Pacific Gas & Electric, Contra Costa County Sanitation District, East Bay Municipal District, Dublin San Ramon Services District, East Bay Regional Park District or other agency's right-of-way's subject to their review and approval.

(B) IMPROVEMENT PLAN CHECKLIST

(1) Plan view of each street to be improved shall be shown on separate sheets indicating the disposition of existing improvements and contours/elevations within one hundred feet (100') of the project boundary, proposed improvements and future improvements. Proposed improvements shall include, but not be limited to, sidewalk, curb, gutter, driveways, sewer mains, water mains, water service and sewer lateral locations, storm drains, manholes, valves, fire hydrants, fencing, barricades, monuments, survey stationing, face of curb data for all curves, street lighting, traffic signs, pavement markings, and other data as required by the Public Works Director. They survey stationing shall read from left to right with the north arrow pointing either to the top or left edge of the sheet. All stationing shall be a continuation of existing improvements where possible.

(2) Profile view of each street shall be shown immediately below or above its plan view. The profile shall include existing grade lines, sewer mains, storm drains, water mains, public utility mains, all utility crossings, and top of curb. Elevations shall be shown at top of curb, at grade break points, manhole and catch basin inverts, and water main crossings with other utilities, and at each lot line in plain view or every one hundred feet (100'), whichever is less.

(3) Show the location and total width of all public streets, alleys, pedestrian ways, equestrian and hiking trails and biking paths, and railroad rights-of-way; the names of public streets and the width on each side of the centerline of each public street; the width of the portion of the street, alley, pedestrian way, equestrian and hiking trail and bike path being dedicated, and the width of the existing dedication, public or private, if any, within the subdivision.

(4) Show the lines of any natural watercourse, channel, stream, creek or body of water in or adjacent to the subdivision and/or officially adopted floodplain lines, which constitute parcel boundary lines or easement lines.

(5) Street widening shall include cross-sections at one hundred foot (100') intervals together with existing and proposed cross-slopes, pavement sections, and pavement tie-in details.

(6) Stationing to conform to existing street, stationing, and distances on Final Map.

(7) Street widths and improvements must comply with any Master Plan and the Tentative Map.

(8) All elevations, distances, and slopes must be mathematically correct.

(9) Provide profiles of all cul-de-sac and curb returns, which must conform to City standards. Curve data to be shown.

(10) Dimension street and right-of-way widths in plain view on each sheet.

(11) Show horizontal curve data for all sewer, storm drain, and water lines.

(12) Grade breaks in excess of one percent (1.0%) or more shall be constructed with vertical curves designed in conformance with Caltrans design standards and as applicable to the type of roadway classification. Show all vertical curve data.

(13) Label pavement cross-slope on all typical sections and cross-sections. Show existing and proposed cross-slopes.

(14) Show special erosion control measures in median islands, parkways where street grade exceeds seven percent (7%).

(15) Show saw cut lines in existing asphalt concrete at all pavement conforms.

(16) Overlay existing pavement as necessary to provide smooth transitions.

(17) Proposed design for the extension of streets two hundred feet (200') beyond property line (plan & profile) is demonstrated. For arterial and collector streets, show all existing and future driveways and median breaks.

(18) Horizontal and vertical curves to conform to these Engineering Design Standards, local ordinance, State Highway Design Manual, and the requirements of the Public Works Director.

(19) Verify that streets intersect at right angles (+/- 5 degrees).

(20) A summary of quantities table shall be provide for the major civil improvement items relating, but not limited, to water, sewer, storm drainage, joint trench, street lighting, pavement quantities and others as required by the Public Works Director.

(21) Show the pavement design with note to verify after rough grading. Pavement design shall reflect T.I.s and 'R' values used in design. Any design to overlay existing pavement rather than place new pavement shall core the existing pavement to confirm existing pavement section and its adequacy.

(22) Appropriate transition to be provided from widened sections, including berms, barricades and markers.

(23) Label clearance dimensions between pipe crossings. Show minimum cover on underground facilities. Elevations of existing facilities to be verified by design drawings or potholing.

(24) Pedestrian and handicap access ramps to conform to Title 24 California Code of Regulations requirements.

(25) Verify corner sight distance requirements.

(26) Monuments to be installed are shown per the Final Map locations.

(27) Found street monuments shall be shown and protected or reestablished in conformance with the Land Surveyors Act.

(28) Existing and proposed traffic signs and markings shall be shown on striping and signing sheets, dimension of all lane widths and layout of signs, legends, parking stalls, markings, etc.

(29) Show mailbox locations on the signing & striping plan.

Designers shall confer with local postal authorities to determine the type of mail receptacles that are to be utilized for the project. Design of mail receptacles shall be submitted to the Engineering and Planning Services Divisions for review and approval, and shall include approval by the Post Office.

(30) Show streetlights with stationing, and pole numbers.

(31) Guardrails shown where applicable.

(32) Sewer lines, water lines, storm drain lines and joint trench extended to all subdivision boundaries and outside to roadway pavement.

(33) Plans to show approved street names. (Approval from Planning Services Division).

(34) Fire hydrant layout shown.

(35) Compare with Final Map for street widths and easement locations.

(36) Lot lines shown and stationed.

(37) Sewer laterals and water services shown and stationed.

(38) Compare with grading plan for consistency.

(39) All proposed soundwalls and retaining walls shall be shown on the improvement plans.

(40) Adjacent improvement plans and subdivisions referenced.

(41) Traffic signal design shown where required.

(42) Provide detailed traffic control and construction staging plans when warranted.

(43) Driveway widths and locations shall be shown and checked for adequate sight distance and conformance to grade requirements. Driveways on the opposite side of the street shall be shown, and also any street intersections or driveways within one hundred feet (100') of the property line.

(44) Ownership and maintenance responsibility for easements and improvements relating to soundwalls, fences, drainage features, open space, trails, landscape, and decorative elements shall be shown on the improvement plans.

(45) All plans shall be fully dimensioned. Site plans shall show all signing, striping, circulation arrows, driveway design details, roadway slopes, and

Americans with Disabilities Act (ADA) compliance. Additionally, plans shall show width and length of parking stalls and include dimensions for drive aisles and pedestrian walkways.

(46) Landscaping or signage constructed as part of the project shall not block the sight distance triangle for clear visibility at each of the project intersections with a public street.

(47) No finished slopes shall have a surface inclination of greater that 3:1 (horizontal: vertical) unless the stability of such slopes has been demonstrated by the Applicant's Geotechnical Consultant and the design has been reviewed and approved by the City.

(48) Any deviations from City Standard Plans and Specifications shall be indicated on the plans and requires prior approval by the City Engineer.

(49) Show any other information required by the Engineering Design Standards, local ordinance, or the Public Works Director.

(50) Detailed plans reflecting the design and construction of all public infrastructure improvements for street, sewer, water, storm drain, both on and off site, shall be in conformance with the adopted Infrastructure Master Plan and as directed by the City Engineer. Developer shall have written approval from the City Engineer for any variations from the City's Master Plan prior to any final map or plan approval.

(51) Provide typical cross-sections for the boundary of the project, to depict the impact to the surrounding areas.

(52) Show all pedestrian and bike facilities (existing and proposed).

(C) STREET PLAN AND PROFILE AND DETAIL SHEETS – The following requirements are for all plans submitted to the City of San Ramon for review and approval:

(1) **Plan View** – The plan view of each street to be improved shall be shown on separate sheets and shall include existing improvements and contours/elevations within 100 feet of the project boundary, proposed improvements and future improvements, if known. Proposed improvements shall include sidewalk, curbs, gutters, driveways, sewer mains, water mains, sewer lateral locations, storm drains, manholes, valves, fire hydrants, fencing, barricades, and survey monuments. Plan information shall include centerline stationing, curve data for all curves along centerline and curb returns and distinct elevations along the face of curb at all beginning and ends of curves and at all curb returns. Call-outs on the plans to City standard shall reference the Standard Drawing where these are shown. Other data may be required as specified by the Public Works Director. The stationing shall normally read from left to right with the north arrow pointing either to the top or right edge of the sheet. All stationing shall be a continuation of that used for the design of existing improvements where possible.

(2) **Profile View** – The profile view of each street shall be shown immediately below its plan view. The profile shall include centerline stationing, existing and proposed street centerline profiles, profiles of sewer mains, storm drains, water mains, public utility mains, all utility crossings, and gutter flow lines. Distinct elevations shall be shown for the street centerline and gutter flowline at 50-foot stations and grade break points, manhole and catch basin inverts and elevations, and water main crossings with other utilities. Rates of grade shall be shown on all profile lines. Elevations of the hydraulic grade line for the 10-year frequency storm shall be shown at all storm drain manholes, catch basins, and drain inlets where located above the top of the pipe. Elevations of the hydraulic grade line for 100-year frequency storms shall be shown at all crossings of arterials, culverts, and where determined necessary by the Public Works Director.

(3) **Signing and Striping Plan** – All existing and proposed traffic signing and striping shall be shown on a plan view and on separate sheets from all other improvements. Signing and striping to be shown shall include all existing and proposed traffic striping, pavement markings, pavement markers, regulatory signs and warning signs. All existing signing and striping within at least 200 feet of the project limits shall be shown.

(4) **Other Plans** – Other plans that shall be incorporated in the public improvement plans include, but are not limited to, landscaping and irrigation; retaining and decorative soundwalls; and traffic signals. The layout of meandering sidewalks, soundwalls, pedestrian pass-throughs, etc., shall be shown on the improvement plans along with any grading associated with these improvements in addition to being shown on the landscaping plans. Public improvements built under the landscaping plans shall be included in the cost estimate submitted with the improvement plans in order that they may be properly bonded for and inspection costs covered.

(5) **Detail Sheets** – Detail sheets, if necessary, shall delineate special details, structural designs, etc., for which no Engineering Services Division standard drawing exists, and when space is not available on the plan and profile sheets.

Plan views of the structure for which details of design are to be provided shall be shown on the detail sheet depicting the location of said structure in relation to street centerlines, stations, bearings, skews, grades, etc. Structural details shall be delineated at a scale that will clearly define all facets of the design.

Engineering Services Division standard drawings shall not be delineated on detail sheets or any other sheet unless reproduced in full.

(D) DRAINAGE IMPROVEMENT CHECKLIST

(1) Facilities designated as Contra Costa County Flood Control facilities shall be submitted to the Contra Costa County Flood Control District by the Applicant/Developer to be checked and approved.

(2) Drainage area map (with the designated drainage area number) and hydrology calculations in the form of a report shall conform to Contra Costa County Flood Control District standards.

(3) Gutter flow, inlet Q and bypass Q calculations to be submitted and values shown on plans.

(4) Channel or pipe calculations, including entrance and exit conditions, hydraulic losses and velocity to be submitted.

(5) HGL for 10 year storm shown on plans and shall be 1.25' below the flowline of the gutter.

(6) Show storm drain pipe slopes. Storm drain shall be at a minimum grade to provide a minimum velocity of two (2) feet per second when flowing full.

(7) Pipe size for publicly maintained lines shall be 18 inches or greater and shall conform to hydraulic calculations.

(8) Label all proposed pipe materials and class of pipe.

(9) Invert elevations and D-load requirements to be shown on improvement plans.

(10) Change in pipe size and direction allowed only at a structure. Match crowns of pipes.

(11) Appropriate design consideration for grades of 15% or more.

(12) Existing conditions at discharge points shall be adequately protected from damage due to erosion.

(13) Inlets shall conform to the City of San Ramon standards and shall be adequately sized.

(14) Desilting basins and/or energy dissipators detailed and properly sized.

(15) Crossings with any existing or proposed utilities shall be shown with adequate clearance or required encasement indicated.

(16) No angles greater than 90° are allowed in storm drain systems without the permission of the Public Works Director.

(17) Hydrology studies shall also include stormwater impervious surface calculations. This shall entail the total square footage of current, new, replaced and total impervious surface for the proposed project.

2. GENERAL NOTES

The following General Notes shall be included on all Public Improvement Plans or specifications and on site development plans (as warranted); <u>however, additional notes may be required when applicable:</u>

(A) An Encroachment Permit shall be obtained from the City of San Ramon for any work to be performed within the public right-of-way. (Note all other permit requirements from any other affected agencies.)

(B) Approval of these Public Improvement Plans as shown does not constitute approval of any construction outside the project boundary.

(C) The existence and location of existing underground facilities shown on these plans were obtained by a search of the available records. To the best of our knowledge, there are no other existing facilities except as shown on these plans. However, the Contractor is required to take precautionary measures to protect any existing facility whether or not it is shown hereon, and is responsible for correcting any damage to said utilities.

(D) Location and elevation of existing improvements shall be confirmed by field measurements prior to construction of new work. Prior to commencement of construction, the Contractor shall contact Underground Service Alert (1-800-227-2600) to obtain a U.S.A. identification number and to have existing utilities located. Contractor shall make exploratory excavations and locate existing underground facilities sufficiently ahead of construction to permit revisions to plans if revisions are necessary due to actual location of existing facilities.

(E) All work shall conform to the currently adopted editions of the Standard Plans and Specifications of the City of San Ramon unless otherwise noted.

(F) “City Engineer" shall mean the City Engineer or his/her designee acting within the scope of his/her authority.

(G) The developer shall telephone the City of San Ramon Engineering Services Division Inspection Hotline at (925) 973-2692, at least two (2) working days prior to starting construction work.

(H) The Contractor shall schedule a preconstruction conference at the job site with the City, developer, subcontractors, utilities, and other affected agencies at least two (2) working days prior to starting any construction work. The Contractor must have approved plans prior to scheduling a preconstruction conference.

(I) Traffic Control shall be provided in conformance with the latest edition of the “Manual of Traffic Controls for Construction and Maintenance Work Zones” issued by the State of California, Department of Transportation and as required by the Public Works Director.

(J) If any cultural features or archaeological materials are uncovered during grading, trenching, or other excavation work, all work within one hundred feet (100’) of these materials shall be stopped until a professional archaeologist certified by the Society of Professional Archaeology (SOPA) and/or the Society of California Archaeology (SCA) has had an opportunity to evaluate the significance of the find and appropriate mitigation measures are determined and implemented.

(K) Contractor’s operations shall conform to the rules and regulations of the State of California Construction Safety Orders pertaining to trenches and excavations.

(L) The installation of erosion control facilities and measures is necessary at all times. (Erosion Control Plan shall be approved by the City Engineer).

(M) Mailboxes shall be designed and installed in locations approved by the local postmaster.

(N) Monuments are to be set as shown on the plans and per the requirements of the Subdivision Map Act, Land Surveyors Act, and the City Subdivision Ordinance and shall be in accordance with the rules and procedures approved by the County Surveyor. All lot corners and tract boundaries shall be located and monumented in accordance with the recorded Tract Map and written certification shall be submitted to the City Engineer by the project civil engineer.

(O) Joints between new pavement and existing pavement shall be made by saw-cutting existing pavement to affect a neat butt joint as depicted on the City Standard Plans. Feathering new asphalt paving over existing pavement is not allowed.

(P) The contractor shall notify the Contra Costa County Sanitation District, Dublin San Ramon Services District, East Bay Regional Parks District, East Bay Municipal Utility District, or DERWA prior to starting work near District's facilities and shall coordinate all work with District's representatives.

(Q) Location and height of all retaining walls shall be as shown on these plans. Retaining wall permit must be issued by the Building Division except those as defined under California Building Code Permit Exemptions.

(R) No final paving shall be done until existing power poles and other existing facilities, are relocated outside the areas to be paved.

(S) Sub grade for all street, curb and gutter, and concrete flatwork shall be compacted to ninety-five percent (95%) relative compaction.

(T) All underground utilities shall be constructed prior to the placement of baserock unless otherwise approved by the Public Works Director, unless recommended otherwise by a soils/geotechnical engineer and approved by the City.

(U) All pavement markings in the public right-of-way shall be thermoplastic unless specifically called out as paint. No permanent markings shall be placed until the City Traffic Engineer, City Engineer or his/her representative approves cat tracking.

(V) Blue reflective pavement markers shall be installed at each fire hydrant location.

(W) All traffic signs and street name signs shall be high reflective grade materials.

(X) The improvement plans shall reflect that all on-site/off-site storm drain inlets shall be marked "Only Rain Down the Drain" using a storm drain marker as described in Standard Detail M-1, on the face of the curb adjacent to the inlet as described in Standard Detail SD-1. The project plans shall also include a Stormwater Pollution Prevention Plan outlining erosion control measures to prevent soil, dirt, and debris from entering the storm drain system, in accordance with regulations established by the State Water Resources Control Board Nation Pollutant Discharge Elimination System. The Storm Water Pollution Prevention Plan shall follow the outline provided

by the California Stormwater Quality Association Stormwater Best Management Practices Handbook.

(Y) All storm drain structures shall be constructed to City of San Ramon standards (with weep holes at subgrade elevation) unless otherwise noted.

(Z) The Contractor shall review the current Storm Water Pollution Prevention Plan (SWPPP) provided by the owner. It is the Contractor's sole responsibility for conducting his/her operations in adherence to the SWPPP. The Contractor is responsible for any fines, delays, and/or damages resulting from any State Water Quality Control Board sanctions caused by the operation of the Contractor or his/her Subcontractors.

(AA) Benchmark used - *(number, location, description and elevation).*

(BB) Basis of bearings used - *(description, bearing, and record reference)*.

(CC) Applicable City of San Ramon Standard Plans include but are not limited to, the following: *(list Standard plans).*

3. CHANGES IN THE WORK

Prior to commencing any construction not shown on the approved plans, the following actions shall be taken:

(A) The Engineer of Record shall submit a red-lined print showing the proposed change, along with a justification for the change.

(B) The proposed change will be reviewed by the City Engineer.

(C) Once the proposed change is accepted, the Engineer of Record shall submit a revised mylar of the original drawing, showing the proposed change, for final review and approval by the City Engineer. The City Engineer will approve the change by signing the plan revision in the space provided on the plans.

(D) All changes shall be clearly designated by "clouding" the plan revision in both plan and profile on each plan sheet and by labelling each change with a revision number and date of revision.

(E) After the revised original plan is approved by the City Engineer, three (3) blueline prints, and a photo mylar (4 mil, reverse-read, matte surface up) shall be submitted to the City. No work on the proposed change shall commence prior to the submission of these items.

4. RECORD DRAWINGS ("AS BUILTS")

Prior to the final acceptance of work by the City, the Engineer or Architect of Record shall:

(A) Provide written certification that improvements and/or grading have been substantially constructed in the locations and to the grades shown on the plans. Substantially shall mean + or – 0.1'.

(B) Submit a redlined set of the original plans showing all "As-Built" information including approved construction changes, "As-Built" elevations, and final pavement

sections. City staff will check the redlined prints and return them to the Engineer of Record for amendment of the original plans. The Engineer of record shall then submit to the City one (1) complete set of photo mylars (4-mil, reverse-read, matte side up), a PDF, and CAD file showing and incorporating all the "As-Built" information. All "As-Built" information and changes shall be "clouded" and labelled. All plan sheets shall be clearly marked "RECORD DRAWING", dated, stamped and signed by the Record Engineer on each sheet.

(C) Provide a written statement by the project surveyor certifying that survey monuments have been set in accordance with the Final Map, and that the surveyor setting the monuments has been paid for the work. The developer's subdivision bonds will not be released until the "Record Drawings" photo mylars, the required electronic (digital) files and surveyor's written statement have been submitted to the City.

(D) Provide written certification from other affected agencies and/or parties that all work to be accepted by other agencies has been accepted.

(E) Submit an electronic file of the improvements as required on the Submittal Procedures, Section 8, "Electronic File Submission."

5. CHANGE IN ENGINEER OF RECORD OR ENGINEER OF WORK

Prior to any change in the Design Engineer status on a project, the previous Design Engineer, Engineer of Record, or Engineer of Work shall submit a release to the City of San Ramon and a statement that they have been paid in full. The City will not accept changing design professionals without this safeguard.

Chapter IX

JOINT TRENCH PLAN REQUIREMENTS

IX

JOINT TRENCH PLAN REQUIREMENTS

1. PLAN REQUIREMENTS

Joint Trench plans shall be drawn, printed, or otherwise reproduced in a manner guaranteeing a permanent record in black ink. The plans shall be prepared on 4 mil. photo mylar (reverse reading with matte surface up), having an overall size of 24 inches by 36 inches. Every plan sheet shall be wet signed, with seal or stamp and expiration date, by the responsible design engineer. Submittals that are not signed and sealed will not be accepted for plan check.

A one-inch margin shall be left on each plan sheet edge, leaving an interior sheet size of 22 inches by 34 inches. No writing or marking of any type shall be inserted within the one-inch margin. The border shall be black indelible line having a thickness of 1/16". All sheets shall be at the same scale and orientation. North shall be toward the top or left of the standard sheet.

Joint Trench Plans for public and private development projects shall be prepared in accordance with the Engineering Design Standards and submitted to the City Engineer for plan check and approval. A copy of the “letter of intent” to all utility companies shall be submitted along with the first joint trench and/or street lighting plan submittal to the City.

Electrical, gas, telephone, and cable television services, shall be provided underground in accordance with City policies and existing ordinances. All utilities shall be located and provided within public utility easements or public streets sited to meet utility company standards.

(A) GENERAL INFORMATION

(1) A Civil Engineer must sign and stamp all Joint Trench plans prior to City Engineer approval.

(2) Include five-foot (5’) public utility easement (PUE). Verify with the Developer’s Civil Engineer that the five-foot (5’) PUE is dedicated on the Final Map.

(3) Smallest allowable scale is 1=40’. City reserves the right to request 1’=20’ if plan information is too congested and difficult to read.

(4) Refer to the Improvement plan sheet requirement list for additional information.

(5) At minimum, title sheet needs to show Tract Number, Developer’s Name, Utility Contact Name and Numbers, Utility Company Job Numbers, Vicinity Map, Key Map, Sheet Index, General Notes, City Engineer Signature Block and Legend.

(6) The following sheets must be included in the Joint Trench Plan Set: Composite, Streetlight, Gas and Electric Plans.

(7) Each unit or lot within a subdivision shall be served by gas, electric, telephone and cable and/or fiber facilities.

(B) COMPOSITE PLANS

(1) Provide typical roadway cross-section depicting ROW, PUE, trench, and type of sidewalk (meandering or integral to curb and gutter).

(2) Provide typical cross-section of joint trench.

(3) All Joint Trench plans must include a detail depicting how the Joint Trench will cross over/under other utilities (sewer, water and storm drain). Splitting the Joint Trench to cross utilities is prohibited.

(4) If project includes already paved streets, add the following note: "All conduit crossings of *{state Street Names}* shall be installed by directional drilling or jack and bore method."

(5) If new power poles must be constructed off-site to service the new development, submit written request to City Engineer for approval.

(6) Provide a detail depicting the branching of the joint trench laterals within the 5' PUE and not within the private lots.

(7) Label the Composite sheet numbers as: C1/#, C2/#, etc. (where # is the total number of sheets within the joint trench set).

(8) Provide the following General Notes:

(a) All PG&E, AT&T, Cable TV and Fiber Optic Boxes and Joint Trench Facilities are to maintain a minimum of 3' separation from sewer and water laterals and driveways.

(b) All utility vaults, boxes, pedestals, etc. must maintain a 5' minimum clearance from fire hydrants and 3' minimum from streetlights.

(9) If aboveground structures are required, provide a detail for acceptable screening devices. The City Engineer shall approve all locations for aboveground structures prior to plan approvals.

(10) On the title sheet state the "X LF of Joint Trench and Y Street Lights shall be installed with this Joint Trench Plan Set."

(C) STREETLIGHT PLANS

(1) Refer to Engineering Design Standards section (ED) of this manual for additional information.

(2) The streetlight layout plan shall include the location of proposed lighting standards and its assigned pole numbers, electroliers, service point(s),

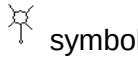
pull boxes, the intensity of the proposed luminaire, a location plan of the conduit run showing wire size and length of proposed electrolier/pole assembly.

(3) Include the following notes:

(a) Upon tract acceptance, the entity that will maintain the streetlights

(b) Lights shall be energized per PG&E's rate schedule LS-2A (Owner owned and maintained), unless approved otherwise by the City and PG&E.

(4) Indicate the type of streetlight, Cobra or Decorative Style. For the legend use:

 symbol to represent Cobra

symbol to represent Decorative

(5) Streetlights should be placed on the property line or at the curb return on the long side of the house whenever feasible.

(6) The preliminary layouts of streetlights will be reviewed during the first plan check of the Improvement Plans; however, the Joint Trench Plans shall govern for the final location of streetlights.

(7) Label the Streetlight sheet numbers as: SL1/#, SL2/#, etc. (where # is the total number of sheets within the joint trench set.)

(D) ELECTRICAL AND GAS PLANS

(1) Electrical and Gas plans need to be included with the Joint Trench Plan set.

(2) Label the Electrical sheet numbers as: E1/#, E2/#, etc. (where # is the total number of sheets within the set of plans).

(3) Label the Gas sheet numbers as: G1/#, G2/#, etc. (The number below shall indicate the entire # of sheets within the joint trench set.)

(E) FIBER OPTIC PLAN

(1) Fiber optic plans need to be included with the joint trench plan set (if applicable).

(2) Label the fiber optic sheet numbers as: FO1/#, FO2/#, etc. (The number below shall indicate the entire # of sheets within the joint trench set.)

Chapter X

Engineering Design Standards

X

ENGINEERING DESIGN STANDARDS

1. PURPOSE

The purpose of these Design Standards is to provide certain minimum standards for the design and construction of both publicly and privately maintained improvements within the City of San Ramon. Plans shall be designed to meet the criteria and requirements established or referenced in these Engineering Design Standards. Any facilities or items which are not specifically included in these Standards shall be designed in accordance with the applicable requirements of the following publications and accepted engineering practice. The order of precedence of these documents shall be as listed below. In case of a discrepancy between this document and any of the following documents, the more stringent requirement shall control, unless approved otherwise by the City Engineer. All designs shall be based on NAD 83 horizontal datum and NGVD 29 vertical datum.

The Public Works Director may require additional standards and/or regulations not inconsistent herewith when deemed necessary to protect the health, safety, and welfare of the public.

(A) Subdivision Ordinance, Grading Ordinance, Zoning Ordinance, and all other provisions of the City of San Ramon Municipal Code.

(B) Uniform Building Code

(C) California Building Code

(D) State Highway Design Manual, latest edition

(E) State Planning Manual, latest edition

(F) Standard Plans and Specifications of the City of San Ramon, latest editions

(G) State Standard Plans and Specifications, latest editions

(H) AASHTO Geometric and Roadway Design Guide, latest edition

(I) Other Standards as required or specified by the Public Works Director

(J) Conditions of Approval from Planning Commission or City Council.

2. GENERAL

Complete plans and specifications for all proposed improvements, including any necessary dedications and easements, shall be submitted to the Engineering Department for review and approval and must receive the required approval prior to the beginning of construction of any such improvements. This shall apply for both public and private improvements. Such plans shall be prepared under the direction of a Registered Civil Engineer in accordance with the provisions of "Civil Engineer's Act" Chapter 7 - Division 3 of the Business and Professions Code, relating to the practice of Civil Engineering.

Any proposed deviations from the City of San Ramon Standard Plans shall be called out in the submittals. The designer for any such changes shall obtain prior written approval from the City Engineer. If a set of improvement plans has been signed by the City Engineer, and changes to the City of San Ramon Standard Plans and Specifications have been made by the designer and have not been called out and approved in writing by the City Engineer, the developer will be held to meet the City of San Ramon Standard Plans and Specifications at no cost to the City of San Ramon.

3. RIGHT-OF-WAY POLICY

The City's right-of-way policy requires that all public storm drainage, street lighting and traffic signals and appurtenances be in easements or rights-of-way granted or dedicated for storm drainage, street lighting, traffic signals, and/or public use. In the case of public right-of-way for streets, further dedication is not necessary for public utilities.

Public facilities shall be designed and constructed within public street right-of-ways whenever possible. Public facilities within easements on private property are not encouraged, and will be reviewed on an individual basis by the City Engineer. Cul-de-sacs designed with public facilities in easements between properties at the end of the bulb must be approved by the City Engineer.

Utility easements shall meet the more restrictive of the following width criteria:

(A) Minimum width of any easement shall be ten feet (10') for one (1) utility, with greater widths required for multiple utilities.

(B) All easements shall have a minimum width in feet equal to the required trench width according to the standard detail for trench backfill, plus two (2) additional feet of width for every foot of depth of the pipe as measured from the bottom of the pipe to finished grade. All pipes shall be centered within their easements.

4. STREET DESIGN

(A) GENERAL

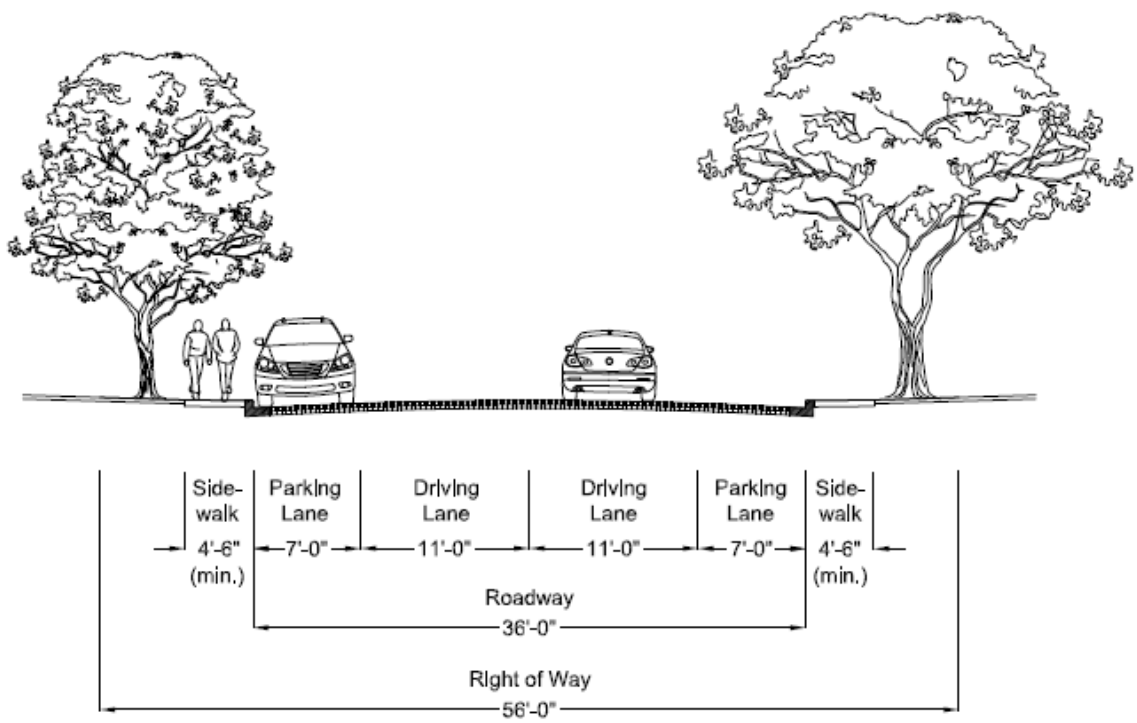
For purposes of geometric and structural design, streets shall be classified according to the General Plan. Any deviation from the following standard shall require the approval of the City Engineer.

Table I: Street Design

Class	Right-of-Way (Feet)	Width Bet. Curbs (Feet)	Min. Traffic Index 1	Max Grade Rate (%)	Min. Centerline R for Hor. Curve (Feet) 2	Min. AC (Inches) 3	Min. Base AB (Inches)	Min. Comp. AC & AB (%)
Arterial Street	100-200	80-160	9.0	8	1200	5.5	20.5	95
Collector Street	76-96	60	7.0	10	800	4	14	95
Residential Streets	60	36-40	6.5	15	250-500	4	8	95

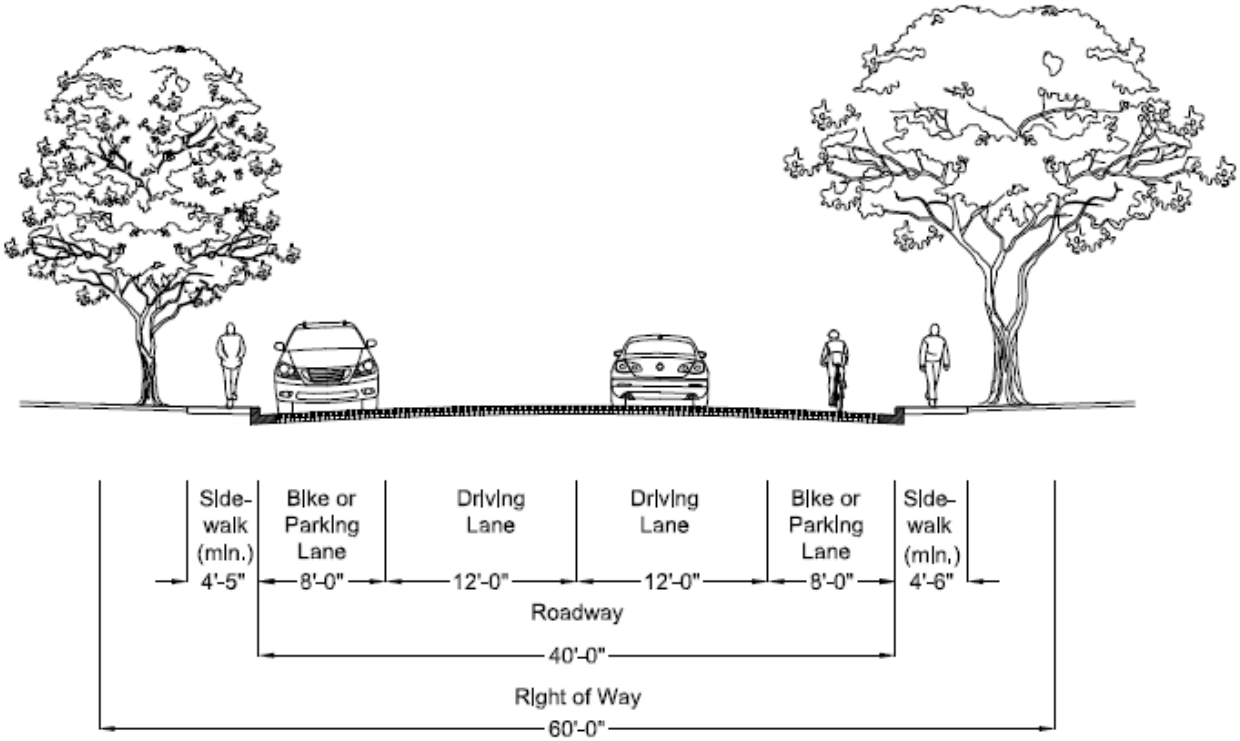
1/ May be adjusted at the discretion of the City Engineer if traffic warrants a higher/lower value. Traffic routes will require a higher Traffic Index (TI) as approved by the City Engineer.
2/ Actual design of horizontal curves shall be based on the design speed of the street and approved by the City Engineer.
3/ To be installed at least two (2) lifts.
4/ Local streets and cul-de-sacs less than 250 in length.
5/ Parking lot aisles subject to truck traffic shall be designed to industrial/commercial standards.

TYPICAL ROADWAY CLASSIFICATION CROSS SECTION

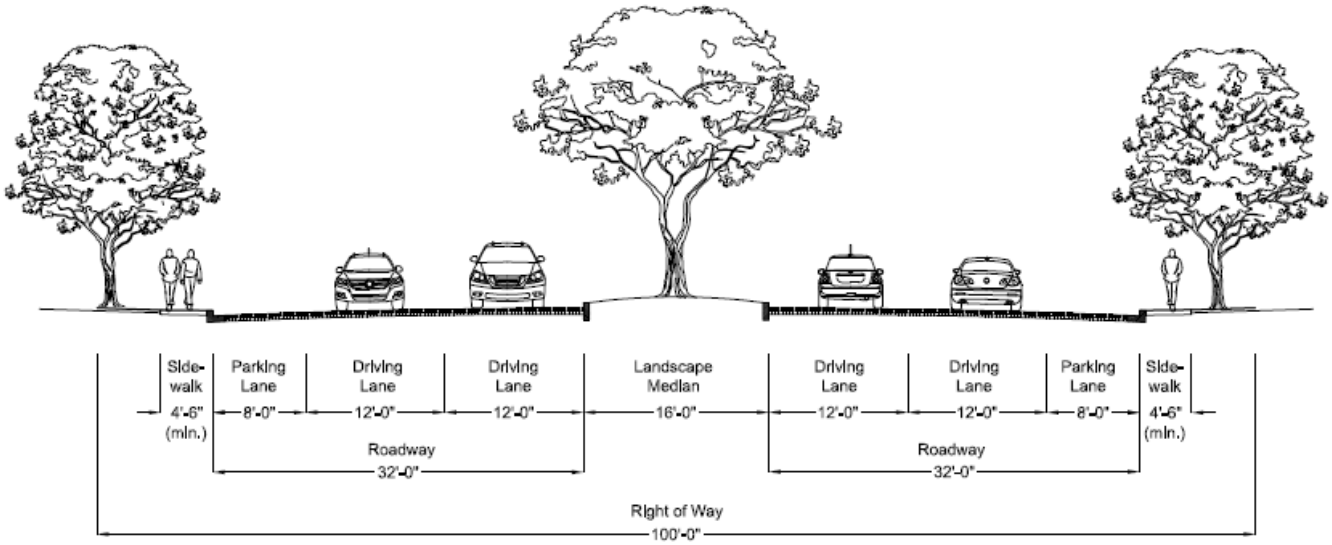


Residential Street (not to scale)

TYPICAL ROADWAY CLASSIFICATION CROSS SECTION

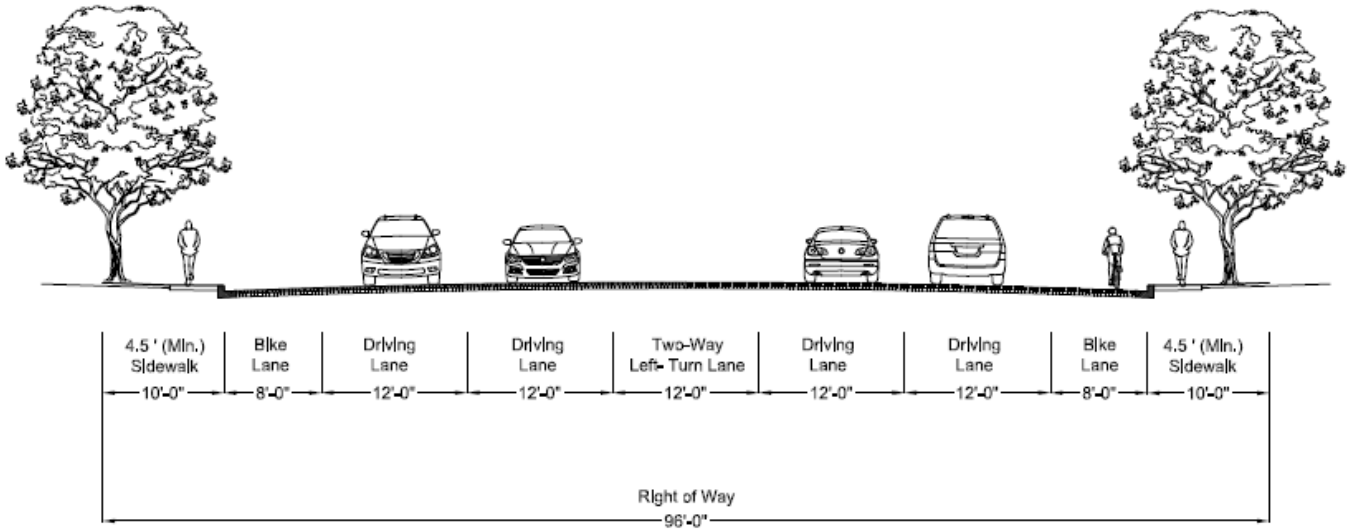


Local Collector (not to scale)

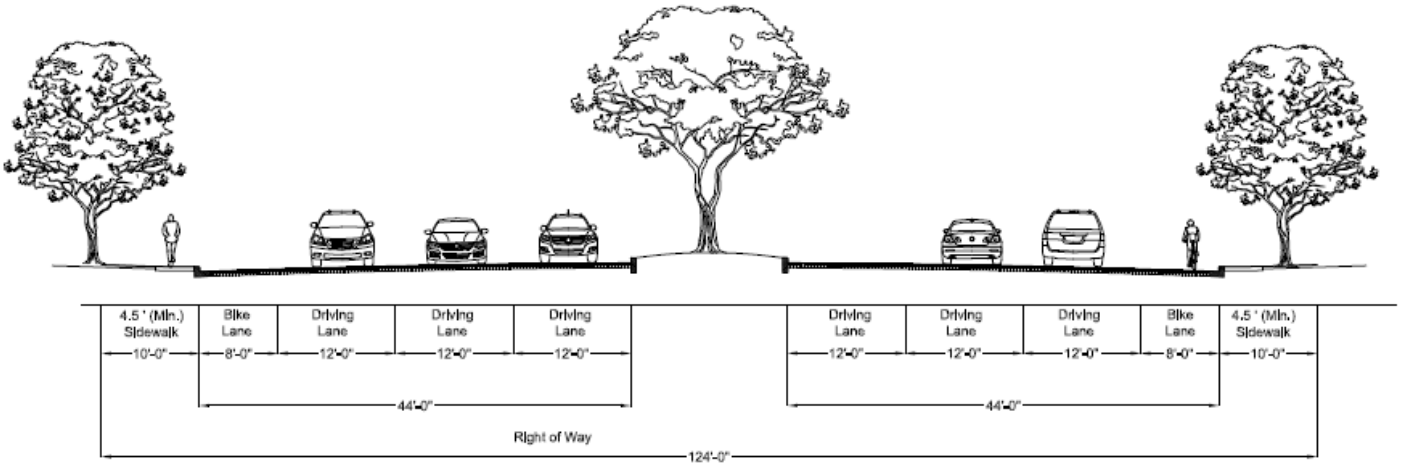


Minor Arterial (not to scale)

TYPICAL ROADWAY CLASSIFICATION CROSS SECTION



Major Collector (not to scale)



Major Arterial (not to scale)

Street sections calculated based on "R" values obtained from material gathered from the level of the proposed subgrade using the State of California Division of Highways design method must be approved by the City Engineer. Structural pavement sections in the table assume an “R” value of 5. The minimum street section shall not be less than four inches (4”) of asphalt concrete and eight (8) inches of aggregate base unless approved otherwise by the City Engineer. Aggregate base shall conform to the State Standard Specification Section 26. The use of recycled asphalt or aggregate base is not allowed unless approved otherwise by the City Engineer.

Private streets, parking lots, and commercial developments shall use local residential requirements as a minimum. Off-street parking shall be provided, designed, and constructed in accordance with the requirements of local ordinance and as required by the Public Works Director.

(A1) COMPLETE STREETS POLICY

It is critical that design elements of Complete Streets in San Ramon take into consideration all types of travelers, including pedestrians, bicyclists, persons with disabilities, motorists, public transit users and operators, and all age groups and abilities (i.e. seniors, adults, children, and youth).

The first priority in designing Complete Streets is to ensure that the design is compliant with City standards and accepted engineering practices. It is also important to realize that the design must also be consistent with local and regional planning and zoning documents, and any applicable studies. Furthermore, where there is no standard provided by the City, it is recommended the designer review and consider other jurisdictions adopted Complete Streets documents and designs as a resource and examples for design. Review Appendix I “Complete Streets Guidelines” for further details on compliance.

(B) GEOMETRICS AND LAYOUT

(1) The alignment of all arterial streets shall conform to those designated on the specific plan, plan line alignment study, etc., adopted by the City Council prior to the date of filing of the tentative map with the City Engineer. All proposed collector and minor streets shall be in alignment with existing streets and/or approved design prior to the tentative map approval. A minimum of one eight (1/8) of a mile (660’) shall be maintained between street centerline intersections, in addition, streets must line up with opposite streets whenever possible. Variances from this standard must be approved by the City Engineer. Street layout shall be designed to provide for future street design for properties adjoining the subdivision.

(2) Street centerlines shall intersect at right angles with a variance of plus or minus five (+/-5) degrees. A minimum of two hundred feet (200’) shall be maintained between street centerline intersections. Whenever possible, streets must line up with opposite streets. Variances from this standard must be secured in advance, and in writing, from the City Engineer.

(3) Curb line radii shall be tabulated on the construction plans. Numbering shall not repeat from sheet to sheet.

(4) Curb return radii:

The minimum face of curb radius at street intersections is determined based on the class of the intersecting streets as follows:

Table II: Curb Return Radii

Class	Min. Curb Return Radius (feet)
Arterial Street to Arterial Street	50
Arterial Street to Any Collector Street	40
Any Collector Street to Any Collector Street	30
Any Collector Street to Residential	30
Residential to Residential	25
Industrial/Commercial to Any Street	35

(5) Gutter flow line grades shall have a minimum slope of 0.01 feet per foot and maximum depicted on Table I of this section, “Street Deign.”

(6) Cross slope on all streets shall be as shown on the Standard Plans unless a deviation has been approved by the City Engineer.

(7) The minimum vertical curve length allowable at the intersection of two grades shall be fifty- (50) feet. Actual design of the vertical curve shall be based on the design speed of the street and stopping sight distance as determined by the City Engineer. However, vertical curves may be omitted where the algebraic difference in grades does not exceed two percent (2%), and will not be visible to the driving public. The vertical curve data shall be computed and shown on the plans and shall call out the tangent gradients, length of curve, the elevations and stationing points of the beginning of vertical curve (BVC), end of vertical curve (EVC), PI, high and low points, and along 25-foot intervals.

(8) The minimum sight stopping distance over any segment of roadway shall be designed for the vehicle speeds listed in Table III unless specific approval for a lesser design speed is received from the City Engineer. Minimum stopping sight distance shall be consistent with that specified in the latest edition of the State Highway Design Manual.

TABLE III

Street Classification	Design Speed
Minor Residential	25 mph
Primary Residential	30 mph
Industrial/Collector	40 mph
Minor Arterial	50 mph
Major Arterial	60 mph

*These values represent minimum design speeds. At the discretion of the City Engineer, these design speeds may be increased for individual streets depending on circumstances.

(9) The design of all public streets, private streets, and driveways other than for single family residential or duplex shall provide minimum sight distance in accordance with Caltrans Corner Sight Distance criteria as outlined in Section 405 of the Highway Design Manual (HDM). For convenience, the applicable portion of Section 405 is shown below. Design speeds shall be as specified in Table IV or as specified by the City Engineer.

TABLE IV

Design Speed (mph)	Corner Sight Distance (ft)
25	250
30	330
40	440
50	550
60	660
70	770

The above values assume the setback for the driver on the cross street or driveway is 15 feet from edge of the traveled way. Set back assumes six feet to stop bar, one foot for the width of the stop bar, and 8 feet from front bumper to driver. If the stop bar is more than six feet from the traveled way, additional allowance should be considered.

For right turns out, the above values are measured from the egressing motorist to the vehicle approaching from the left traveling in the outside (curb) lane. For left turns out, the above values are measured from the egressing motorist to the vehicle approaching from the right traveling in the inside (fast) lane.

Where special circumstances preclude meeting corner sight distance as described above, a lesser value for corner sight distance may be used with the approval of the City Engineer, but the minimum value shall be the stopping sight distance given in Table 201.1 of the HDM measured

from a 3.5-foot eye height on the minor road to a 4.25-foot object height on the major road.

Designer's traffic engineer shall provide City with a letter certifying that sight distance triangles have been reviewed for clear visibility based on proposed design amenities at all intersections as deemed appropriate by the City Engineer.

(10) Minimum longitudinal grades are one percent (1%) on all asphalt concrete. Normal crown is two percent (2%) on all streets. Offset crowns on cul-de-sacs are not allowed.

(11) Cross slopes on widened existing streets shall be a minimum of 1.5 percent and a maximum of 3.5 percent. Where a street constructed with a super elevation is to be widened, the cross slope shall be as specified by the City Engineer.

(12) Provide special pavement design where grades are fifteen percent (15%) or greater.

(13) Tangent sections are required at all street intersections and between reverse horizontal curves.

(14) Maximum length of cul-de-sacs is six hundred feet (600').

(a) No more than twenty-five (25) single-family residential units shall have access off any individual cul-de-sac.

(15) Subdivisions, subdivision phases, streets, and blocks of single-family lots shall be arranged and staged such that no more than twenty-five (25) lots are developed with access from a single public roadway. Development of any additional lots will require construction of an acceptable additional connecting roadway providing secondary ingress and egress.

(C) APPURTENANCES

(1) Driveways

(a) No driveway shall be permitted within less than three (3) feet of a property line, centerline of a fire hydrant, light standard, traffic signal, utility pole, or other similar facility. Special consideration by the Public Works Director may be given to major and minor street driveway configurations of an unusual nature.

(b) Commercial/industrial and multi-family driveways shall have a minimum width of twenty-four (24) feet and a maximum width of thirty (30) feet (exclusive of the width of a medium divider). Commercial driveways shall have a minimum radius return of twenty-five (25) feet. The minimum width for a single-family residential driveway shall be twelve (12) feet with a maximum of twenty-four (24) feet. Transitions at each side of the driveway shall be up to five (5) feet.

(c) When adjacent to a street intersection, commercial/industrial driveways shall have a minimum of sixty-five (65) feet from the curb return to the centerline of the driveway or as approved by the City Engineer.

(d) The minimum distance between driveways that serve the same parking facility shall not be less than twenty-five (25) feet apart. When two or more driveways serve multi-family or nonresidential development, the centerline of the driveways shall be separated by a minimum of fifty (50) feet.

(e) All driveways shall conform to the City of San Ramon Standard Plans and Zoning Code Division D3-37 “Driveways and Site Access” and Americans with Disabilities Act (ADA) when crossing sidewalks.

(f) No driveway shall be located less than one hundred and fifty (150) feet from the nearest street intersection, as measured from the centerline of the driveway to the nearest travel lane of the intersecting street. A lesser distance may be approved by the Public Works Director for parcels with street frontage of less than one hundred and fifty (150) feet.

(2) Parking

Parking requirements shall be considered on a street-by-street basis. The aggregate number of provided on-street parking spaces will be considered within the limits of each individual street or cul-de-sac.

For all single-family properties, a minimum of one (1) on street parking space (20' clear distance) is required. For lots which front on a cul-de-sac bulb, one on-street parking space, eighteen (18) feet in length, shall be provided.

On-site parking and all parking lots shall be designed and provided as required by the Zoning Ordinance and the Public Works Director.

(3) Valley Gutters

Valley gutters will not be allowed within the public right-of-way or public easement.

(4) Sidewalks, Curbs and Gutters

(a) Sidewalks shall be a minimum of five (5) feet wide as measured from face of curb. The Public Works Director may require wider and/or separated sidewalks.

(b) Sidewalks shall be constructed adjacent to all public streets.

(c) Sidewalk, curb and gutter shall be of the design as shown on the Standard Plans or as required by the City Engineer.

(d) Sidewalk barricades shall be required where satisfactory provisions cannot be made for pedestrians to safely continue beyond the terminus of the sidewalk. Where sidewalks end in fill areas, the fill shall be extended beyond the end of the sidewalk for a minimum distance of six feet.

(e) Combined pedestrian/bike paths shall be a minimum of eight feet (8') wide.

(f) Curb ramps for the handicapped (Handicap Ramps) shall be installed at all street crossings and curb returns and shall be constructed in conformance with Section 39-7, "Miscellaneous" (Asphalt Concrete), Section 73, "Concrete Curbs and Sidewalks," of the State Specifications, the most current edition of the State Standard Plans, and in conformance with the Americans with Disabilities Act.

(5) Survey Monuments

Survey monuments shall be provided as shown on the Final Map and shall be installed as a minimum at the following locations:

(a) On the roadway centerline at all intersections.

(b) At beginning and end of each horizontal curve on the centerline.

(c) On the roadway centerline at the end of any stub street or cul-de-sac.

(d) At all other locations as required by the Public Works Director.

(e) A minimum of two (2) monuments shall be installed in all subdivisions, with coordinates on the California Coordinate System (NAD 83) horizontal datum and NAVD 88 vertical datum.

(f) Extensions of lot lines shall be tagged and marked in accordance with Board of Registration of Civil Engineers and Licensed Surveyors Policy Resolution No. 96-04.

(g) All monuments set shall be as shown on the Standard Plans and shall clearly show the registration number of the licensed Civil Engineer or Land Surveyor who prepared the Final or Parcel Map.

(h) For street reconstruction and overlay projects, existing monuments shall be referenced by a registered land surveyor prior to the start of construction, and recovered and/or replaced at the conclusion of the work. The surveyor shall file corner records required by statute with the County.

(i) In locations where a new benchmark will be required, as determined by the City Engineer, the developer's engineer will set in concrete a 3 1/4 inch brass cap, shall then run a second order, class two survey from an approved City of San Ramon benchmark

to establish the elevation of the cap. The level notes will be submitted to the Engineering Services Division for approval. After approval of the notes, the developer's engineer will mark on the brass cap the City of San Ramon benchmark number, the date, and the R.C.E. or L.S. number of the person certifying the level notes.

(6) Signing, Pavement Markings, and Barricades

(a) Street names shall require approval by the Planning Department, Police Department and the Fire District.

(b) Street name signs, stop signs, and pavement markings shall be paid for and installed by the developer or subdivider.

(c) All pavement markings in the public right-of-way shall be as specified in Standard Detail R-6.

(d) Other regulatory and warning signs to control traffic, such as speed zone signs, are to be installed by the developer or subdivider.

(e) Permanent barricades shall be installed where improvements cover only a portion of the ultimate development or as directed by the Public Works Director. The barricade shall be constructed, erected, painted and signed in accordance with the Standard Plans.

(f) Signs and pavement markings shall be in accordance with the Manual on Uniform Traffic Control Devices and Caltrans Standard Plans.

(g) Storm drain markers stating “Only Rain Down the Drain” shall be installed at each catch basin as described in Standard Detail M-1. Markers may be purchased at the Engineering Services Division.

(7) Easements

Public service, drainage, landscaping, and fence easements shall be located as required by the utility companies and the Public Works Director. Publicly maintained facilities within easements on private property are subject to the review and approval of the City Engineer.

(8) Existing Roadways

All new underground facilities crossing existing arterial or collector streets shall be by boring or jacking, unless otherwise approved by the City Engineer.

(9) Underground Utilities

Sufficient information shall be shown to establish the elevation and/or profile of water services and sewer laterals at crossings with other underground utilities (storm drain, joint trench, etc.). The plans shall

ensure that minimum clearances at pipe crossings are maintained. Minimum clearance is 1' between any water main/service and other facilities. Minimum clearance between all other underground pipes and facilities is six inches (6"). Services and laterals shall cross above or below the conduit bank in joint trenches.

(10) Trenching in Existing Paved Roadways

All trenching in existing roadways shall conform to the Standard Drawings. The Developer may be required to coordinate trenching work schedules to avoid cutting pavement where repaving is planned by the City. In no case will trenching be permitted on any street that has been constructed or overlayed within the last three years. Special consideration may be given by the Public Works Director under unusual circumstances.

(11) Street Names and Street Name Signs

Street names shall be proposed by the Developer and shall be shown on the tentative map when submitted. These names shall be subject to approval by the Planning Department, Police Department, and Fire District. No duplication of names already in use or previously proposed or sound alike names will be permitted. Street name signs shall be furnished and installed by the Developer.

(12) Frontage Improvements

The developer is required to provide frontage improvements along existing and proposed roadways at the developer's expense. Frontage improvements include, but are not limited to, sidewalk, curb and gutter, 20 feet of pavement width, additional pavement width beyond 18-feet for intersection widening (including acceleration and deceleration lanes, bus turnouts, widening for dual left turns, etc.), drainage system, landscaping, soundwalls, street lighting, roadway signing and striping, and all utilities (including traffic signal interconnect if applicable). For minor residential, primary residential, collector and industrial streets, the developer shall provide pavement width mentioned above plus one travel lane in the opposite direction at the developer's expense.

(13) Existing Facilities

Any facility of any type which requires modification or relocation to accommodate improvements associated with a development project shall be modified or relocated by the developer at the developer's expense. Any existing public facilities damaged during construction of a development project shall be repaired by the developer to the satisfaction of the City at the developer's expense.

(14) Sound Barrier

General – Existing and projected noise levels adjacent to new residential developments shall not exceed dB as defined in the City's General Plan. Sound barriers shall be constructed, if necessary, to achieve this level.

Sound Studies – When required by the City Engineer, a sound study, prepared by an Acoustical Consultant, shall be submitted to the Engineering Services Division prior to approval of the improvement plans. Submission of this study may be required when installation of a sound barrier is required as a condition of approval of a project or when the City Engineer feels that existing or projected noise levels may necessitate the installation of such a barrier. The sound study shall include technical information and computations to support the recommendation.

Location Requirements – Sound barriers shall be located along the rear and side property line of residential developments adjacent to freeways, arterials, collectors, and industrial streets. The wall shall be located in a public easement or right-of-way.

Design Requirements – Sound barriers shall be designed in accordance with the landscaping requirements for the area in which the project is located. Walls shall be designed for a minimum longevity of 50 years. Walls shall have a minimum height of six (6) feet measured from the highest adjacent pad elevation or road side grade, whichever is higher. Structural calculations shall be provided to the Engineering Services Division for all proposed soundwalls. All construction details for sound barriers, including location and limits, shall be shown on the improvement plans.

An anti-graffiti coating shall be applied to the road side of the soundwall and elsewhere as required by the Public Works Director.

5. STORM DRAINAGE

(A) GENERAL

All design shall be in conformance with the current Contra Costa County Flood Control District requirements and the City's current Municipal Regional NPDES permit with the California Regional Water Quality Control Board.

These standards are intended to insure that watercourse and surface water laws are complied with and that runoff from storms up to the 100-year return frequency are conveyed through storm facilities and disposed of in a manner, which protects public and private improvements from flood hazards.

All new developments shall not increase runoff to the 100-year peak flow in the City's flood control channels or to local creeks and shall be substantially equal to pre-development conditions. All new stormwater systems shall be in compliance with the Regional Water Quality Control Board.

The diversion of natural drainage will be allowed only within the limits of a proposed improvement. All natural drainage must leave the improved area at its original horizontal and vertical alignment unless a special agreement, approved by the City Engineer, has been executed with adjoining property owners. Additional drainage runoff resulting from the improved area shall not be allowed to drain onto, or cause to be ponded on, adjacent properties. Existing drainage patterns on adjacent properties shall be maintained.

Stormwater runoff from the subdivision shall be collected and conveyed by an approved storm drain system. The storm drain system shall be designed for ultimate development of the watershed. The storm drain system shall provide for the protection of abutting and off-site properties that would be adversely affected by any increase in runoff attributed to the development. Off-site storm drain improvements may be required to satisfy this requirement. Appropriate hydrology and hydraulic studies shall be submitted to the City Engineer identifying size, location and impacts of such facilities.

All storm drainage facilities shall include provisions for ultimate future upstream development and no development shall discharge at a rate, which exceeds the capacity of any portion of the existing downstream system. Calculations for storm drain design within a development as well as calculations for runoff generated by upstream areas within the contributing watershed shall be submitted to the City Engineer for approval. These calculations are to be based upon the ultimate watershed development and shall include:

(1) Topographic Map showing the relationship between the proposed development and the remainder of the watershed, including acreages of all sub-areas.

(2) Map of the proposed development indicating:

(a) All applicable existing and proposed improvements.

(b) Runoff coefficients for all areas where runoff was calculated.

(c) Time of concentration and intensity of rainfall at each hydraulic structure.

(d) The magnitude and direction (indicated by arrow) of flow in each pipe and flow to each structure contributed by its tributary area. All flow rates shall be in cubic feet per second (CFS).

(e) Elevation of pipe inverts at structures and the top of structure elevation at each structure.

(f) Sizes and slopes of all stormwater conveyance structures and conduits.

(g) The 10-year HGL with elevations at all junction structures, manholes and catch basins.

(h) Contra Costa County Flood Control Drainage Area Number.

(i) Tabulation of total proposed and existing impervious surface area.

(3) Tabulation sheet (Hydrology/Hydraulics Report), which includes all of the above information and summarizes the design in a clear, concise, professional format.

(4) Construction drawings shall include:

(a) 10-year storm water surface elevation to be called out on profile view at each structure.

(b) All flow rates in cubic-feet-per-second called out on profile view for each conduit.

All proposed improvements shall be designed such that, the minimum hydraulic grade line or water surface shall be 1.25 feet below the gutter flowline or when applicable, as required by the Federal Emergency Management Agency (FEMA) and the Department of Water Resources (DWR) Division of Safety of Dams, whichever is greater.

Containment of floodwaters within the public right-of-way is required at all times. Flood waters shall be confined to streets or other approved right-of-ways by grading, levees or alternative means acceptable to the City Engineer. In no instance shall an improvement be designed such that floodwaters can reach a depth of 0.50 feet, as measured from the top of curb, before overland release occurs. The design of all bridges, box culverts, levees, detention basins, spillways, and other applicable structures shall comply with the latest FEMA and DWR Division of Safety of Dams regulations.

At intersections of pipes, the downstream pipe shall have a crown elevation, which is equal to the crowns of all upstream connecting pipes. Pipe diameters shall not decrease in the downstream direction.

(B) DESIGN

All storm drain design criteria, unless otherwise stated herein or directed by the Public Works Director, shall be in accordance with the Contra Costa County Standard Specifications for Public Works Construction.

(1) Easements

Publicly maintained drainage conduits and channels on private property are subject to the approval of the City Engineer and will not be allowed unless they lie within a dedicated public easement. Where minor improvement of a drainage channel falls on adjacent property (such as daylighting a ditch profile) written permission from the adjacent property owner(s) for such construction shall be required. A copy of the document which grants said approval shall be submitted to the City Engineer prior to the approval of the improvement plans.

Easements for closed conduits shall meet the more restrictive of the following width criteria:

(a) Minimum width of any easement for a closed conduit shall be fifteen (15) feet.

(b) All easements for closed conduits shall have a minimum width in feet equal to the required trench width according to the standard detail for trench backfill plus two (2) additional feet of width for every foot of depth of the pipe as measured from the bottom of the pipe to finished grade. All conduits shall be centered within their easements. Drainage easements for open channels or creeks shall have sufficient width to contain the open channel or creek and sufficient area to access and maintain the channel or creek.

(2) Drainage Diversions

The diversion of natural drainage is allowable only within the limits of the proposed improvement. All drainage must enter and leave the improved area at its original horizontal and vertical condition unless an agreement has been executed with the adjoining property owners. Temporary drainage diversions during construction shall be approved by the City Engineer and shall be located and constructed in such a fashion as to permit their removal when necessary for the prevention of damage to the adjoining properties.

(3) Pipe and Appurtenances

The minimum allowable inside diameter of any publicly maintained system and storm drain pipe shall be eighteen (18) inches and designed to flow with a minimum velocity of two (2) feet per second when flowing full. The pipe materials, which may be used for storm drainage improvements within the City and right-of-way and easements, are specified in Section 65 of the Caltrans Standard Specifications and Section 65 of the Contra Costa County Standard Specifications. Under no circumstances shall storm drain (top of bell) encroach into subgrade material. Cover less than two (2) feet requires concrete cap and City Engineer’s approval. Pipe material shall be Class III reinforced concrete pipe. Cast in place concrete pipe, CMP, CAP, PVC, HDPE, and ABS pipe will not be allowed without clear justification and written approval of the City Engineer.

For publicly maintained pipes the minimum depth shall be two (2) feet below street subgrade. Maximum manhole spacing shall be three hundred (300) feet. The City Engineer shall approve any deviation from these minimum allowable criteria.

The City Engineer may allow the use of smaller diameter pipe, and alternate pipe materials and structure design, for privately maintained storm drain systems. In all cases, the private storm drain system shall be designed to comply in all other aspects with the design criteria established in these Design Standards.

(4) Cover Requirement

All cover requirements are as shown in the Standard Drawings or per the manufacturer's specifications. At locations where the standard minimum cover requirements cannot be obtained, the pipe shall be either

encased in concrete or provided with a concrete cover, use Class IV or V pipe, or another method as approved by the City Engineer.

In fill areas, or in areas with poor soil conditions where it is anticipated that a good, firm, vertical-walled trench cannot be constructed the Engineer shall design the pipe structural requirements in accordance with good engineering practice.

(5) Alignment

Pipelines for storm drainage shall have a constant slope between manholes, junction boxes, and or catch basins. Minimum radius of curvature shall be 200 feet. In no case shall the radius of curvature be less than the manufacturer's recommendations for the particular pipe size under consideration.

Drainage pipelines shall be located in the street whenever possible. Meandering and unnecessary angular changes of pipeline shall be avoided. Angular changes in alignment shall not be less than 90 degrees with the downstream section of the storm drain main. All laterals intersecting with the mainline shall have an alignment that provides an intersection with the downstream section of the storm drain main of no less than 90 degrees.

When storm drainage lines are to be placed in existing streets, factors such as curbs, gutters, sidewalks, traffic conditions, pavement conditions, future street improvement plans, and existing utilities shall be considered.

Open ditches, lined channels, swales, and flood plain areas shall be maintained as nearly as possible in their existing alignment. When an open ditch is to be constructed parallel to an existing roadway, the ditch shall be constructed outside the proposed right-of-way of the ultimate street development.

(6) Manholes

Standard precast or cast-in-place concrete manholes shall be constructed per City standard details SD-6, SD-7, or SD-8 depending on the size of the pipe. Where special manholes or junction boxes are required, the design must be approved by the City Engineer. In no case will junction boxes or manholes be allowed which are smaller than 48 inches inside diameter. Manholes shall be located at junction points, changes in gradient and changes in conduit size. The spacing of manholes shall not exceed 300 feet unless approved otherwise by the City Engineer. The spacing of manholes shall be nearly equal whenever possible.

(a) Saddle Manholes – Saddle manholes may be constructed on storm drain conduit 36 inches or greater in diameter provided that no junction exists with any other storm drain conduit.

(b) Covers – All manholes and junction boxes, other than inlets, shall have standard manhole covers per the Standard Drawings. No pipe will be allowed to enter a manhole in the transition portion of

the manhole cone. Manholes will not be allowed in gutter flow line except where approved by the City Engineer. Slotted manhole covers may be used to pick up minor drainage in non-traffic areas.

(7) Catch Basins/Drop Inlets

Catch Basins or Drop Inlets in streets shall be located at lot lines in residential subdivisions except at intersections, where they shall be placed at curb returns. Inlets shall be placed such that the length of flow in the gutter does not exceed 400 feet apart or 400 feet from the roadway high point on all residential roadways unless approved by City Engineer. The depth of flow in the gutter at the inlet shall not exceed the inlet capacity in a ten year storm and shall not encroach into the traveled ways for other design storms. The runoff volume shall include any flow that by-passes upstream grates.

All inlets located within the City right-of-way or easements shall be Type "B" unless indicated otherwise on the plans. Inlets may be modified for use without curb sections for on-site drainage. Where an inlet is proposed in public streets and sidewalk is not constructed adjacent to the back of curb, a concrete collar shall be placed behind the inlet. Type C inlets may be used as junction inlets if the flow line is 4 feet or less below the grate elevation. A one-foot sump shall be constructed in a drop inlet discharging to an open space or waterway.

Drop inlets draining public streets may be connected directly to a trunk line 36-inches in diameter or larger by means of a lateral not exceeding 18-inches in diameter and 80 feet in length.

(8) Junction Boxes – The requirements for junction boxes are as follows:

(a) Junction boxes shall be constructed of reinforced concrete or fabricated from reinforced concrete pipe section where size limitations permit. Structural calculations shall be provided for all junction boxes.

(b) Minimum wall thickness for reinforced concrete junction boxes shall be 6 inches.

(c) The inside dimension of junction boxes shall be such as to provide a minimum of three inches clearance on the outside diameter of the largest pipe in each face. All junction boxes shall be rectangular in shape unless otherwise approved by the City Engineer. Junction boxes deeper than 4 feet shall have a minimum dimension of 48 inches.

(9) Inlet and Outlet Structures – The requirement for these facilities are as follows:

(a) Headwalls, Wingwalls, and Endwalls - All headwalls, wingwalls, endwalls, preformed end sections, guard rails and bank protection shall be considered individually and shall be, in

general, designed in accordance with the Standard Specifications and Standard Plans of the California Department of Transportation.

Metal beam guard rails or chain link fencing may be required by the City Engineer at culverts, headwalls, box culverts, and on steep side slopes.

(b) Trash Racks and Access Control Racks - Trash racks will be provided where they are necessary to prevent clogging of culverts, storm drains, and to eliminate hazards.

Access control racks shall be required on all pipes 24 inches or larger in diameter.

(c) Drainage Pumps

Drainage pumps shall be avoided whenever possible, and used only with specific approval of the City Engineer. If the use of drainage pumps is permitted, the drainage system shall be designed so as to provide for gravity outfall during the summer months and other periods of low water stages. If a low stage gravity outfall is impossible or impractical, an alternate pump of smaller capacity for low stage flow may be used provided specific approval is granted by the City Engineer.

(C) CLEAN WATER REQUIREMENTS

(1) Clean Water Program Stormwater C.3 Guidebook. The Stormwater Control Plan shall be substantially consistent with the Preliminary Stormwater Control Plan submitted for the Project. The Stormwater Control Plan shall include, at a minimum, the following:

(a) Delineation of separate drainage areas within the site.

(b) Tabulation of pervious and impervious surfaces in each drainage area.

(c) Proposed design features and surface treatments used to minimize imperviousness.

(d) Proposed locations and approximate sizes of stormwater treatment facilities (Best Management Practices, or BMPs, including swales, flow-through planter boxes, or other treatment BMPs).

(e) Preliminary designs, including calculations, for each treatment BMP.

(f) Locations on the site of potential sources of pollutants.

(g) A tabulation of potential pollutant sources identifying appropriate permanent source control BMPs to address each potential pollutant source.

(h) General description of maintenance requirements for treatment BMPs.

In addition, the Stormwater Control Plan shall qualitatively evaluate potential changes to site runoff peaks and durations when compared to the pre-project condition. The controls incorporated into the Stormwater Control Plan need not meet quantitative criteria for mitigating those changes.

(2) The Design shall implement the Regional Water Quality Control Board, State Resources Water Quality Control Board, and Federal Environmental Protection Agency measures to minimize or eliminate the discharge of certain storm water pollutants originating from the site. Included shall be provisions for the following

(3) Procurement of a General Construction Permit from State Resources Water Quality Control Board (filing a Notice of Intent and a Storm Water Pollution Prevention Plan) prior to commencement of construction for any project which will disturb 10,000 square feet or more. Evidence of permit's procurement shall be provided to City Engineer prior to City's permit issuance.

(4) Applicant shall cause all on-site and off-site drainage inlets to be marked in accordance with City standards. These designations, if located on private property, shall be maintained by applicant or owner in a manner acceptable to the City, pursuant to City Ordinance.

(5) Developer shall comply with the latest Contra Costa County Clean Water Program and NPDES requirements and provide an operations and maintenance plan for the proposed development. Developer will be required to enter into a storm water treatment measures agreement with the City prior to occupancy.

(D) FEDERAL FLOOD PROGRAM

(1) The City of San Ramon is a participant on the National Flood Insurance Program and all development in the City shall comply with the regulations of the City of San Ramon Flood Ordinance and the Federal Emergency Management Agency (FEMA).

(2) Within the Special Hazard Flood Area lowest floor elevations should be designed at a minimum of one foot above the base flood elevation. The designer shall be responsible for all necessary activities, applications, documentation and costs to amend floodplain maps for their development, Letter of Map Revision (LOMR), Elevation Certificates, for all projects on parcels identified in Zone A or Zone AE on the FEMA FIRM for the City of San Ramon. Applications for LOMR shall be prepared and submitted by the developer prior to the issuance of the site development permit.

6. SANITARY SEWERS

(A) GENERAL

The City Engineer retains the right to require additional upgrading and sizing on all plans in accordance with the most recent Master Plan and future buildout requirements. The applicant/developer must coordinate with the local agency (Dublin San Ramon Services District or Central Contra Costa Sanitary District) to ensure all the requirements have been met.

(1) Sanitary sewer system design within a developing area must include provisions for size and capacity to adequately convey all domestic and industrial waste that can be reasonably anticipated under conditions of full ultimate development. Engineering calculations or DSRSD/CCCSD reports or documentation to support the sewer system design shall be submitted to the City Engineer for approval. The calculations shall include:

(a) Each lot or unit within a subdivision shall be served by a sanitary sewer system as approved by the local sanitation district.

(b) Map indicating service area within the sewer system including any future contributing development with projected land use, zoning, and any physical features contributing to the sewer system design.

(c) Sanitary sewer waste volumes (design capacity, full pipe capacity, design flow, cleansing velocity), both existing and proposed, within the service area of the system.

(d) Size and slope of each pipe between appurtenant structures.

(e) Invert/RIM elevations of each pipe and appurtenant structure.

(B) DESIGN

(1) Flow, Pipe Capacity and Sizing

The design sanitary sewer flow, pipe capacity, and sizing shall be computed by the local district providing service to the project (DSRSD/CCCSD).

(2) Velocity

Sewer velocity shall at a minimum be equal to or greater than two (2) feet per second for all sewers when flowing at design capacity.

(3) Pipe Cover and Clearances

(a) Minimum pipe cover and clearance shall be maintained in the design of sanitary sewers. If conditions exist which make it impractical to meet the minimum cover and clearance requirements, the conditions and locations shall be specifically noted above the sewer profile on the plans. Each location not

meeting the minimum cover and clearance requirements will require special approval. Any planned condition being specially approved with less than minimum cover will require special pipe, casing, bedding, and/or backfill as directed by the City Engineer.

Other utilities shall not, under any circumstances, be installed directly over and parallel to any sanitary sewer line installation.

(b) Main and trunk sewers shall have a minimum depth of five (5) feet as measured from the top of the pipe to the street grade.

(c) Laterals shall have a minimum depth of four (4) feet from the top of the pipe to the finish grade where they connect to the main.

(d) Pipe shall be laid with a minimum of twelve (12) inches vertical clearance from water lines and six (6) inches vertical clearance from all other improvements and utilities, unless otherwise approved by the City Engineer.

(4) Pump Station/Lift Stations

No pumping of sanitary flows is permitted, unless approved by the City Engineer. In order to qualify for approval, full justification for the intended use is required, and there are no reasonable, feasible alternatives available.

Pump Station and Force Main Requirement – Sewer pump station and force mains shall require preparation of a predesign report subject to review and approval of City Engineer. No sewer system shall rely on a pumping station without prior approval of the City Engineer. The plan sheets shall show the general layout and control system required for a typical acceptable sewage pump station. The plans shall show the testing required prior to acceptance of the pump station.

(5) Allowable Pipe Materials

Pipe material is as specified by the local agency serving the project (DSRSD or CCCSD) and shall clearly be designated on the improvement plans.

7. WATER SYSTEM

(A) GENERAL

(1) Pertinent and current requirements of the following agencies or standards shall be complied with. In case of conflict, the design criteria of the City of San Ramon, as established herein, shall govern.

(a) Environmental Protection Agency Drinking Water Regulations.

(b) Laws and Standards of the State of California, Department of Public Health Services relating to Domestic Water Supply.

(c) Title17, Chapter V, Sections 7583-7622, California Administrative Code regarding cross-connections and backflow prevention.

(d) Uniform Fire Code.

(e) Latest edition of American Water Works Association (AWWA) standards.

(f) DSRSD and EBMUD standard requirements.

(2) Water system design within a development area shall conform to the local water district's master plan (East Bay Municipal District or Dublin San Ramon Services District). The City Engineer retains the right to require additional upgrading and sizing on all plans as required to assure adequate fire flow and a reliable secure system and future full build out conditions. All improvements including extensions, replacements, and repairs shall conform to the requirements of the, National Board of Fire Underwriters, American Water Works Association Standards, City of San Ramon Regulations, and the Standard Plans and Specifications of the City of San Ramon.

(3) Each unit or lot within a subdivision shall be served by a domestic water system as approved by the local water district.

(4) Reference is also made to Title 17, Chapter V, Sections 7583-7622 inclusive of the California Administrative Code, regulating the construction of cross connections between drinking water systems and other sources of water. All construction shall be in strict compliance with said regulations and City of San Ramon Regulations.

(B) DESIGN

(1) Layout of Mains:

Water lines and services are not allowed to cross under sanitary lines unless suitable separation between said facilities and/or appropriate protective casings have been provided in accordance with all applicable water regulations, as approved by the City Engineer.

Water mains shall be located such that ten (10) feet clear horizontal distance is provided to adjacent sewer lines.

The applicant shall show, on the profile of improvement plans, inverts of pipe at all changes in grade in all areas where conflicts with other utilities might arise, the top of pipe will also be shown. A detail shall be drawn of such conflicts with sufficient information shown that the City Engineer can make a determination as to the adequacy of the solution shown.

(2) Sizes, Pipe Material and Valves

In general, water main sizes, pipe material, and valves to be compliant with the local water agency requirements (EBMUD or DSRSD).

In all cases, water mains shall be of sufficient size to meet fire flow requirements as outlined by the requirements of the San Ramon Valley Fire Protection District.

(3) Fire Hydrants

Fire hydrants shall be placed as specified by San Ramon Valley Fire Protection District, latest edition of the California fire code, and by the City Engineer. Fire hydrants on streets shall have a maximum spacing of five hundred (500) feet. Red zone painted curb installed 15 feet on each side of the hydrant if required by the Public Works Director.

The size water main serving a fire hydrant shall be a minimum size for compliance with the minimum fire hydrant flow requirements as specified in the California Fire Code.

All design fire flows and residential pressures shall meet the criteria and shall be approved by the San Ramon Valley Fire Protection District.

Identify fire hydrant locations by installing reflective “blue dot” markers adjacent to hydrants 6 inches off center from the middle of the street.

Fire hydrant color shall be as specified by the local water district, but with the intent to standardize the hydrant color within the City. Private fire hydrants are required to by white with blue tops per the San Ramon Valley Fire Protection District requirements.

All hydrants shall be wet barrel, standard steamer type (1-4 ½” and 1-2 ½”) outlet.

(4) Other Appurtenances

Blow-offs shall be provided at all low points in water main profiles. Temporary blow-offs shall be installed at the ends of any line subject to future extension.

Air release valves shall be constructed at all high points in water main profiles.

(5) Services

Service lines from the water main to the property line shall normally be installed at the time the main is constructed to avoid frequent cutting of the street.

(6) Anchors

Concrete anchors or thrust blocks shall be provided at all bends, behind tees, fire hydrants, crosses which are valved in such a manner that they can be used as tees, and at valves, as required by the local water district and the City Engineer.

(7) Cover Requirements

Water mains and services shall be installed at a depth, which will provide a minimum of thirty-six inches (36") from the top of the pipe to the subgrade. In case of utility conflict in which the water main is required to go over another utility, a "Concrete Cap over Water Main" map be required.

(8) Backflow Prevention Device

Backflow prevention devices shall conform to current California Department of Health Services Standards.

8. STREET LIGHTING

(A) GENERAL

These specifications shall cover the design and installation of streetlights and parking lot lights. The design and installation of public street lighting systems shall conform to these standards, the City of San Ramon Standard Plans and Specifications, and Section 86 of the State Specifications, and Illuminating Engineers Society of North America (IES) Guidelines.

The applicant shall show the proposed street lighting system or parking lot lighting on the project improvement plans.

The plans shall include the following items:

(1) Location of electroliers, its pole number and lamp size.

(2) Location of service point.

(3) Locations of pull boxes.

(4) Intensity of luminaires.

(5) Wire size and length.

(6) Mounting height and arm length.

(7) Light distribution pattern.

(8) Layout of street features including curbs, driveways, storm drain, sewer, water line, fire hydrants, catch basins, manholes, and walls.

Streetlight photometric shall be required whenever the designer has any variations from the City guidelines. At the minimum, the photometric shall include information such as average lighting level in foot candles, uniformity ratio (Fc_{avg}/Fc_{min}), and maximum to minimum light level ratio Fc_{max}/Fc_{min}).

The applicant shall then obtain service locations and pole identification numbers from the Pacific Gas and Electric Company (PG&E).

After the applicant receives the service locations, he/she shall determine the wire size and length of each conduit run. These items shall be shown in tabular form or denoted next to each conduit run on the plans.

The developer or contractor shall pay for the cost for all PG&E services. This shall include the PG&E connection charge for energizing streetlights. All streetlights shall be energized according to PG&E rate schedule LS-2A.

(9) State the Lighting and Landscaping District Number for maintenance of the streetlights upon tract acceptance.

(B) DESIGN

(1) Spacing, Intensity and Mounting Heights

(a) Streetlights for public lighting systems shall be standard or decorative streetlights as shown on the City of San Ramon Standard Plans. Determination of the type of light to be used shall be made by the City Engineer. If decorative lighting is used, applicant/developer must submit proposed lighting to City Engineer for approval.

(b) High-pressure sodium bulbs shall be used for all streetlights unless approved otherwise by the City Engineer. LED fixtures are highly encouraged. Each bulb shall have its own solar switch and each electrolier its own regulator ballast. Minimum wire size shall be AWG No. 6.

(c) Standard streetlights shall have the following maximum spacing, minimum intensity and mounting heights according to the type of street the lights are to be installed on.

	Spacing (ft.)	Luminaire Wattage	Mounting Height (ft-in.)
Residential Local	200	70	31-6
All Residential Collector	200	70	31-6
Arterial and Collector	180	200	36-6
Industrial/Commercial	200	100	31-6

The City Engineer may approve variations to the aforementioned requirements on an individual basis.

(d) Residential and commercial decorative streetlights, when used, shall use 100-watt luminaires installed at one hundred-sixty (160) to one hundred-eighty (180) foot spacing on alternating sides of the street.

(2) Pole Height and Arm Length

Pole height and type shall be as shown on City of San Ramon Standard Plan SL-2, SL-3 and SL-4. For poles installed behind the back of curb, the mast arm shall be 6' in length. Poles installed more than six feet (6') behind the back of curb shall have longer mast arms so that the luminaire head is located above the curbline. Poles installed within the median island on arterial streets shall use up to a maximum of twin fifteen-foot (15) mast arms.

(3) Location of Streetlights

(a) Whenever possible, streetlights shall be located on a property line or at a curb return.

(b) On streets with meandering (separated) sidewalks, the center of the lighting pole shall be located two (2) feet from face of curb.

(c) On streets with monolithic curb, gutter, and sidewalk, streetlights shall be located so that the center of the pole is two (2) feet from the back of sidewalk.

(d) Where there is only curb and gutter, the center of the streetlight pole shall be located two (2) feet from the face of curb unless otherwise directed by the City Engineer.

(e) T intersections: For collector and residential streets, a streetlight shall be located on the through street along the projected centerline of the intersecting street. For thoroughfares, a streetlight shall be located at each mid-radius point.

(f) Cul-de-sacs: A streetlight shall be located at the end of the bulb.

(g) Four-way intersection/thoroughfares: Streetlights shall be located at all curb returns.

(h) Four-way intersection/thoroughfares and collector streets: Streetlights shall be located at the far right curb returns of the major street in the direction of travel.

(i) Four-way intersection/collector and residential streets: A streetlight shall be located at one of the returns.

(j) Electroliers should be staggered on opposite sides of the street. Electroliers shall be placed on the outer edge of continuous curves rather than the inside.

(k) Where traffic signals are installed, streetlights shall be included on signal poles wherever feasible, to reduce the number of poles at intersections.

(4) Lighting Distribution Pattern

All street lighting shall be Type III light distribution pattern, except lights at the end of a cul-de-sac and decorative street lighting shall use a Type V light distribution pattern.

(5) Pull Boxes

(a) Pull boxes shall be spaced at a maximum of two hundred (200) feet.

(b) One (1) pull box shall be located next to each electrolier on all streets.

(c) One pull box shall be located at each side of all street crossings, at or near the curb return.

(d) Pull boxes shall be placed immediately behind the sidewalk in sidewalk areas or between the streetlight and edge of sidewalk in meandering (separated) sidewalk areas.

(6) Parking Lot and Exterior Lighting

Parking lot and exterior lighting shall be installed to the approval of the Engineering Services and Planning Services Divisions. All lighting shall be shielded from abutting properties with cut-offs (shields) so as to produce no nuisance or annoyance. No lighting shall be other the type or in a location such that it constitutes a hazard to vehicular traffic, either on private property or on abutting streets. The spacing and height of the standards and luminars shall be to the approval of the City Engineer and Planning Services Director. The height of the standards from the existing grade shall conform to the Zoning Ordinance. To prevent damage from automobiles, standards may be mounted on reinforced concrete pedestals or otherwise protected. Under canopy lighting elements shall be recessed or concealed in such a manner as not to be directly visible from a public street. Lighting shall be installed around the perimeter of the building and be vandal resistant. The use of decorative alternate standard and fixture design are encouraged. Applicant shall submit a photometrics plan to Engineering Services to ensure adequate site lighting and the elimination of excessive lighting onto adjacent properties.

9. EXISTING UTILITIES

(A) GENERAL

The purpose of this section is to assist in the gathering and interpretation of information concerning the location of existing utilities, both above and below ground, that affect the design and preparation of plans for public and private improvements.

Such public and private improvements include the installation of storm drain lines, sanitary sewer lines, water mains, gas, electrical, CATV, telecommunications and fiber optics. Also included is the widening of existing

streets, construction of bridges, pump stations, open channels, and the installation of traffic signals and street lighting systems.

The guidelines contained herein are intended to help the design engineer either avoid conflicts in alignment and elevation or resolve conflicts in alignment and elevation that often occur between proposed public improvements and existing utilities.

This section covers only the technical aspects of avoiding or resolving conflicts with existing utilities. The handling of utility conflicts with regard to prior rights, financial responsibility for relocation of existing utilities, etc., is beyond the scope of this section.

(B) BACKGROUND

The avoidance or resolution of conflicts between proposed public improvements and existing utilities, particularly underground utilities, is a crucial part of the design process. Research concerning the location of existing utilities, careful planning, and close attention to detail are useful tools in determining the degree of impact that existing utilities will have on the horizontal and vertical alignment of proposed water mains, storm drain lines, and sanitary sewer lines. The location of above and below ground utilities may also affect the design of the geometric alignment of streets as well as the alignment and typical cross section of open drainage channels.

Information of the type, location, alignment, length, height and depth of existing public, municipal, and privately owned utilities may be obtained from the owner of the utility. The information comes in the form of maps, plans, drawings, and other records kept by the utility's owner as well as public improvement plans for past projects. In addition, field trips to the site of a proposed public improvement project and the performance of field investigations such as "potholing" provide accurate firsthand knowledge of the location of existing utilities.

(C) TYPES OF UTILITIES – Utilities may be classified according to ownership (public or private) and location (overhead or underground).

(1) Above Ground (Overhead) Utilities – Common overhead public utility lines include electrical power (Pacific Gas and Electric Company, etc.), and communication such as telephone (AT&T, etc.), cable TV.

(2) Underground Utilities – Underground public utilities include electrical power in the form of duct banks (stacked ducts made of or encased in concrete) or direct burial cable (Pacific Gas & Electric). Communication lines may also be placed underground in the form of duct banks or buried insulated cable (AT&T, Comcast, etc.). Natural gas pipelines (Pacific Gas and Electric) are generally underground. At stream crossings, however, natural gas lines may be mounted on bridges.

(3) Municipal Utilities – Municipal utilities serving urban and suburban areas are also included in the category of public utilities. Examples of underground municipal utilities include storm drain and sanitary sewer

lines, both gravity and pressure (force mains), water transmission and water distribution mains.

(4) Privately Owned Utilities – Privately owned utility lines include pipelines used to transmit petroleum products such as lines owned by Kinder Morgan, Chevron Corporation, etc. In addition, manufacturing companies may have their own pipelines for transmitting natural gas or other gases to their plants for their own use.

(D) UNDERGROUND SERVICE ALERT (USA) COLOR CODE

Contractors are required to have the location of all underground utilities marked on the ground within the limits of any excavation prior to beginning the excavation. The alignment and size, if appropriate, of the underground utilities are marked on the ground or pavement surface in a specific color according to the type of utility. The standardized color code used to mark and identify the location of existing utilities in the field is as follows:

RED Underground electrical power lines in the form of ducts (concrete encased or non-encased), cables, or conduits. Also includes conduits for traffic signal and street lighting systems.

YELLOW Natural gas mains and services as well as pipelines carrying petroleum products.

ORANGE Underground telephone and other communication, fire alarm, railroad signal, telegraph, etc., lines in the form of ducts (encased and non-encased), cables, and conduits.

BLUE Water mains and water services as well as landscape irrigation lines.

GREEN Sanitary sewer lines and sewer services as well as storm drain lines.

The markings made in the field by the representatives of the owner of the underground utility indicate only the approximate location of the underground facility. The markings do not signify the exact location but only indicate the particular underground utility is located somewhere within a strip of land not more than 2 feet on either side of the exterior surface of the underground installation. Information on the depth of an existing utility is normally not given, only location and alignment.

(E) UTILITY INFORMATION AND NOTIFICATION

(1) For private development projects, the design professional shall demonstrate their coordination with public/private utilities and submit certification that this coordination has been accomplished.

(2) In the preparation of construction plans, the various utility companies are to be notified in writing according to the following procedure and documentation provided to the City.

(3) Provide information on location and limits of project, scope or description of the work, etc. Include vicinity map, typical sections, right-of-way requirements, and if available preliminary plans with survey notes plotted.

(4) For many projects the notification letters may need to be supplemented with visits to the field, "potholing," telephone calls, and the arrangement of meetings with utility company representatives. This is to insure that any required relocation of existing utilities not to be performed by the contractor will be completed in a manner that will not delay a contractor constructing a project. This is especially important for large projects where utility relocations may be numerous and time consuming.

(5) Early receipt and thorough analysis of utility information (size, alignment, depth, etc.) as related to the design and construction of new public improvements should greatly reduce the number of change orders, construction delays, and contractor claims resulting from conflicts with existing utilities encountered in the field.

(6) As part of the design work for a public improvement project, an effort should be made to identify, locate (by "potholing" if necessary), and arrange a time schedule for the relocation of existing utilities found to be in conflict with any proposed improvement elements.

(F) CLEARANCES TO EXISTING UTILITIES

(1) Excavating Near Power or Telephone Poles

(a) In streets improved with curbs, gutters, and sidewalks, power poles and telephone poles are placed at the back of curb in the sidewalk or planter area. In paved streets that lack curbs, gutters, and sidewalks, the poles are generally placed a few feet inside the street right-of-way line but behind any drainage swales or roadside ditches. In easements, such as along the rear lot lines of residential subdivisions or along drainage channels, power poles are usually placed inside the easement right-of-way line far enough for the crossarms to remain within the easement.

(b) Many public improvement projects, particularly street widening projects, may involve the installation of municipal utilities (storm drain lines, sanitary sewer lines, and water mains) in close proximity to existing power or telephone poles. Existing power and/or telephone poles may need to be set back if the street widening project includes the acquisition of addition a right-of-way. However, until the additional right-of-way is acquired and the poles relocated to their ultimate position, the current location of the poles may greatly influence, if not completely dictate, the placement of the proposed drain lines, sewer lines, or water mains.

(c) In determining the placement of drain lines, sewer lines, or water mains relative to fences, channel banks, power poles, telephone poles, street lights, traffic signal standards, etc., consideration should be given to the working space needs of excavating equipment used to install the drain lines, sewer lines, or water mains.

(d) Existing power or telephone poles may need to be braced if the stability of the poles is threatened by the excavation of a trench nearby. The work of bracing of the poles is performed by the utility company owning the poles (Pacific Bell). For some types of projects (usually privately funded ones) the utility company may charge for the cost of bracing the poles.

(e) Situations occur where the horizontal and/or vertical clearances between the bucket and boom of an excavator and the energized overhead wires of a power pole line may be less than safety standards allow. If an existing electrical power line cannot be temporarily shutdown (de-energized) for a long enough period of time to complete the excavation of a trench and installation of pipe, a temporary power pole line or "shoofly" may need to be installed parallel to but some distance from the existing pole line.

(2) Horizontal and Vertical Clearances to Underground Utilities

(a) If at all possible, water mains are to be placed to provide 10 feet of horizontal clearance from parallel sanitary sewer lines. A minimum of one foot of vertical clearance shall be provided between water mains and gravity sewer lines at all transverse crossings. Water mains shall be installed a minimum of one foot above sanitary sewer force mains at all transverse crossings. In addition, water mains shall cross over rather than under sanitary sewer lines unless the depth of cover over the water main dictates otherwise.

(b) A minimum of one (1) foot of vertical clearance shall be provided between water mains and storm drain lines and other non-sanitary utility lines.

(c) All new, relocated, or replacement water distribution mains as well as small to medium size sewer or drain lines (12 to 18 inches in diameter) shall be placed at least 5 feet, centerline to centerline, from such underground utility lines as gas mains and electrical or telephone cables and ducts, provided the existing underground facilities are not too large (wide).

(d) In areas where the clearances between existing and proposed facilities is extremely limited, new or replacement drain lines, sewer lines, or water mains may be placed such that no portion of the substructure of an existing underground utility is closer than two feet to the trench wall of the new or replacement facility.

(e) Long skew crossing of proposed storm drain lines, sanitary sewer lines, or water mains over and especially under of underground existing utility lines should be avoided if at all possible. Such crossings are very costly to construct due to the amount of difficult excavation and tunneling required (usually by hand) and the need to provide special support for the portion of the existing utility that is exposed.

(G) "POTHOLING" EXISTING UTILITIES

(1) "Potholing" an existing utility involves the excavation and exposure of the utility's substructure at the location of a potential conflict to determine the utility's depth and size. Using the "pothole" measurements, the location and depth of the existing utility should be indicated on the profile of the improvement plans. In some cases the depth and location of an existing utility is best shown on a cross section.

(2) If there is a strong possibility a conflict will occur between a proposed municipal utility line and an existing underground utility, and the owner of the existing utility line is unable to provide its exact elevation at the location of the interference, the Design Engineer for the proposed project should arrange to have the existing utility "potholed." It is recommended a survey party be on hand at the time a "pothole" excavation is made to accurately record the necessary measurements of location and depth (election). A representative of the owner of the underground utility should also be at the site of the "pothole" excavation.

(H) SHOWING EXISTING UTILITIES ON PUBLIC IMPROVEMENT PLANS

(1) All major existing above and below ground utilities should be shown on the public improvement plans in an accurate manner. The location of any existing utility parallel to and within 5 feet of any proposed municipal utility line or which crosses a proposed municipal utility line should be determined with an accuracy of plus or minus one foot. The distances between existing underground utility lines and proposed storm drain lines, sanitary sewer lines, or water mains within 5 feet of one another should be dimensioned on the plans.

(2) The horizontal or vertical alignment of a proposed facility requiring the permanent relocation of an existing utility line should be thoroughly analyzed before the alignment is finalized to determine if feasible options other than relocation are available.

(3) Completed plans for proposed projects should clearly differentiate, insofar as possible, existing utilities that are:

(a) Existing utilities to remain in place

(b) Already abandoned in place

(c) To be abandoned in place

(d) To be relocated by others

(e) To be removed by others

(f) To be removed by contractor

(g) Salvage applicability and responsibility

The contractor's responsibility for the protection, removal, relocation, or avoidance of interference with existing utilities should be indicated on the plans.

10. IRRIGATION SYSTEMS

(A) GENERAL

(1) Irrigation system shall be designed to complete eighty percent (80%) ET of summer watering in an 8-hour period.

(2) Minimum irrigation efficiency shall be sixty-two percent (62%).

(3) Booster pumps shall be used on all projects that will use reclaimed or non-potable water and/or has large turf rotors. All other systems shall be designed to operate at 50 PSI or less without a booster pump. City reserve shall be 20% higher than design pressure as recorded on City water chart, or a booster pump will be required.

(B) CONTROLLERS

(1) All enclosures shall be stainless steel. Electrical meter pedestal backflow enclosure and irrigation controller boxes shall be stainless steel with slant top lids. The slant top enclosures may limit configurations requiring more than one controller or device. Raised on a 12” above finished grade pad.

(2) Must furnish one Rain Master Pro Max-RMR-RAC.

All controllers shall include a Rain Master Pro Max receiver PMR-CAC.

(3) The communication used in the system shall be regular dial-up telephone or radio configuration to all satellite units. Only the Controller manufacturer communications cable shall be used.

(4) Splices for communication cable shall be made ONLY in controller enclosures or in an approved pull box using a Serviseal Closure Kit Model-Super, manufactured by Preformed Products or approved equal. A 1-1/2” conduit shall be used with pull boxes every 100 feet; splice boxes shall be provided at the end of the terminal of the conduit.

(5) All irrigation systems shall include flow sensors and master control valves. These shall work integrally with the controller. The flow sensor shall connect to satellite components necessary for operation.

(6) Rain guard switches shall be used on all AC powered irrigation controllers not connected to the Central Irrigation System.

(C) VALVES

(1) Check valves, either built-in or add-on, shall be installed on any ten feet (10') or higher slope. Use KBI brand or Rain Bird AVC-050 (½"), AVC-075 (¾") or AVC-100 (1", if not built-in) check valves.

(2) Isolation valves shall be AVK (or approved equal) resilient-seated, full-ported gate valves with 2" hex head or approved equal.

(3) Valve numbers shall be sequenced in geographic order.

(4) Locate all valves outside of turf areas where possible.

(5) Quick couplers shall be located next to tennis courts and picnic tables. There shall be one (1) quick coupler at two (2) opposing corners of the tennis court and one (1) quick coupler within forty feet (40') of picnic tables.

(D) SPRINKLERS

(1) No sprinklers shall be installed on fixed risers or quick couplers. Triple swing joints on all heads. – No marlex to marlex fittings.

(2) Bubbler sprinkler ratio shall be one (1) per shrub and two (2) per tree. In lawn areas all trees shall possess 2 pop-up bubblers per tree. This shall also be on an independent valve circuit. Gallonage per shrub or tree should be matched to overall plant requirement.

(3) Sprinklers and piping shall be no closer than four inches (4") from walkways, fences, curb, etc. and eight inches (8") from buildings and other permanent structures.

(E) PIPES AND APPURTENANCES

(1) Sleeves, twice the pipe diameter, are required under all pavements and shall have identifying marks on top of the curb or sidewalk and shall be between twenty four (24") to thirty (30") inches deep but shall not exceed thirty-six (36") inches deep. Installation of bio barrier fabric at the end of each sleeve is required.

(2) Main line and lateral line irrigation pipe type shall be PVC-1120-1220, Type I, Schedule 40.

(3) For pipes under three inches (3"): PVC solvent welds, square cut, primer shall be used. For pipes over three inches (3"), use ring-tight fittings.

(4) Fittings to be used shall be Schedule 80 for main lines and Schedule 40 for laterals. Use a non-hardening thread sealant compatible with the pipe.

(F) WIRING

(1) Valve wiring shall be UL approved for direct burial, copper, AWG-UF 600 volt #14 (minimum). Common wire shall be white (2 per system); control wires shall be of a different color other than white; spare wires shall be of a color different than the used station and/or common wires.

(2) Wires shall be color-coded according to use and shall be labeled at clock with station numbers.

(3) Spare wires shall run along the main line at a ratio of one (1) extra wire per six (6) stations used on clock. Provide a three feet (3') wire loop inside all valve boxes

(4) There shall be no valve wire splices other than in automatic valve boxes. Only Pentite, Snaptite or 3M-DBY Seal Pack shall be accepted for underground splice connectors.

(G) WATERING

(1) Irrigation system over-spray shall not be allowed in play areas, play courts, streets and sidewalks.

(2) Watering of high usage and/or close contact areas (i.e., benches, picnic tables and picnic areas, play areas, water fountains, etc.) shall not be allowed. Watering of sidewalks shall be allowed in parks only where irrigation runoff and/or drainage is contained on site.

(3) Watering shall be in compliance with CCR Title 23 Division 2 Chapter 27 "Model Water Efficiency Landscape Ordinance".

11. LANDSCAPING

(A) GENERAL

(1) All appropriately selected plants shall be grouped into hydro-zones.

(2) AB 395 standards shall be met in all landscaped areas.

(3) Areas under trees and shrubs shall be excavated to a depth of three feet (3') in areas where previous compaction has occurred due to the construction of medians or parking lots and in areas where a road base was installed in the planting location.

(4) Drain tubes may not be necessary. Consult the soils/geotechnical engineer for the suitability of soil.

(B) TREES

(1) All tree-planting holes shall be scarified on all sides and bottom to remove any glazing.

(2) Root deflection panels shall be provided on all trees within five feet (5') of pavement. Install lineal panels parallel to pavement twelve feet (12') in

length (6' on either side of tree). If trees are planted within ten feet (10') of soundwalls or property lines, a thirty-six inch by twelve foot (36" x 12') long root barrier shall be installed at property line.

(3) Trees shall not be planted in areas confined by pavement with less than ten (10) feet from the pavement nor closer than ten (10') feet from property line, fences or walls. Trees planted within fifteen (15') feet of property lines shall be compact, small varieties. Keep trees twenty (20) feet away from streetlights, thirty-five (35') feet away from intersections and directional signage.

(4) All trees shall be 15-gallon size, all other sizes shall be as approved by the Park and Recreation Department. Tree types and planting must conform to the City's Urban Forest Guidelines.

(5) "Lodge Poles" with four ties shall be used on all parks projects.

(C) SHRUBS

(1) Shrub type shall be a maximum of three (3) feet in height, when mature, on any median or intersection radius in view of traffic.

(D) TURF, ETC.

(1) Turf area must allow a minimum of ten (10) feet between plant material and permanent structures for mower equipment use.

(2) Turf varieties shall be a blend approved by the City. Varieties from the most recent University of California Cooperative Extension (UCCE) Turf Trials at the San Jose Research Center are recommended.

(3) Irrigated meadows and slope situations shall be Hard Fescue *(Festuca ovina ssp. Duriuscula)* at a rate of:

(a) Seed: 220 lbs./acre (95% purity, 85% germination)

(b) Mulch: 1800 lbs./acre

(c) R-binder: 60 lbs./acre

(d) Fertilizer: 400 lbs./acre

(E) EROSION CONTROL

(1) For irrigated slope erosion, use Hard Fescue Fescue *(Festuca ovina ssp. Duriuscula).*

(2) The following erosion control mixture shall be used for all non-irrigated hydro-seeded applications, unless otherwise noted:

Table I: Erosion Control Mixture

Botanical Name (Common Name)	Min. % Purity	Min. % Germination	Lbs./Acre
Festuca meglura (Zorro Annual Fescue)	95	85	20
"Hycon" Rose Clover	98	90	6
Lupinus Nanus (Sky Lupine)	90	70	4
Eschscholtzia Californica (California Poppy)	90	70	5
Lobularia Maritima (Sweet Alyssum)	90	70	4
Blando Brome	95	85	15
California Brome	95	85	10

(3) The erosion control materials shall be mixed and applied in approximately the following proportions:

Table II: Erosion Control Materials Proportions

Material	Slope Measurement (per acre)
Seed	60 lbs.
Wood Fiber Mulch	1800 lbs.
Binder	80 lbs.
Fertilizer (20-20-10)	500 lbs.
Water	As needed for application

(F) Fertilizer shall be a City approved product, at a recommended rate based on soil analysis. Best Paks (20-10-5) tablets must be installed at manufacturers recommended rates under all trees and shrubs.

Chapter XI

INSPECTION AND ACCEPTANCE PROCEDURES

XI

INSPECTION AND ACCEPTANCE PROCEDURES

1. CONSTRUCTION AND INSPECTION OF OFFSITE AND ONSITE IMPROVEMENTS

All utilities need to be located and a copy of the USA ticket number must be current within fourteen (14) days of ticket date.

Prior to Rough Grading, a Final Soils Report shall be submitted before the issuance of a Grading Permit. Construction Easements, additional Right-Of-Way Purchase, Right of Entry signed by the owner and the like shall be finalized and approved as well. A detailed construction schedule shall be submitted to the City prior to start of any construction activity.

The following is the sequencing of inspection in the course of construction:

(A) Stormwater Pollution Prevention Plan (SWPPP)

(1) A Storm Water Pollution Prevention Plan (SWPPP) must be submitted and approved by Engineering Services Division. An approved copy must be kept on the construction site, additionally the Contractor shall be responsible for complying with its requirements.

(B) Rough Grading

(1) A pre-construction meeting shall be held with the City Inspector and the Project Manager/s before the start of the site grading.

(2) All required signatures shall be in place on all sets of Grading Plans distributed for construction and final approval by the Public Works Director.

(C) At the time of Final Grading, signed letters by the Engineer of Record and/or Geologist attesting to the following compliances shall be submitted:

(1) Certificate of Rough Grading completion.

(2) Certificate of Compaction.

(3) Certificate of Building Pad.

(4) Soils Report including geotechnical observation and testing summary report.

(5) A copy of the grading plan depicting the correct pad elevations as well as “Record Drawing” plans for all subdrain systems, or any geotechnical engineer required structures.

(6) The construction of the Retaining Walls shall be completed.

(D) Wet Utilities Installation

(1) A pre-construction meeting shall be held with the City Inspector and the Project Manager before the installation of all wet utilities.

(2) All plan submittals shall be city-approved and available on site. All plan sets distributed for construction shall be signed by the City Engineer.

(3) Installation of the sewer, water and storm drain in accordance with the Improvement Plans and City Standard Plans and Specification.

(E) Joint Trench Utilities Installation

(1) A pre-construction meeting shall be held with the City Inspector and the Project Managers before the installation of all joint trench utilities.

(2) All plan submittals shall be approved by the City and all other involved agencies. All plan sets distributed for construction shall be signed by the City Engineer.

(3) Installation of all Joint Trench Utilities according to the joint trench plans and City standard plans and specifications.

(F) Improvement Plans

(1) A pre-construction meeting shall be held with the City Inspector and the Project Managers before the installation of all joint trench utilities.

(2) All plan submittals shall be approved by the City and all other involved agencies. All plan sets distributed for construction shall be signed by the City Engineer.

(3) Installation of all Joint Trench Utilities according to the joint trench plans and City standard plans and specifications.

(4) A detailed construction schedule shall be submitted to the City prior to start of construction.

(G) Street Lights

(1) Installation of the street lights according to the city-approved Joint Trench Utility plans and Standard Plans & Specifications. All plan sets distributed for construction shall be signed by the Public Works Director.

(2) Inspection of pier holes, anchor bolts, ground wire and concrete placement shall take place. Concrete cylinder testing of pier foundations shall be taken at 4500 psi.

(3) Street light pole numbers list to be supplied to the City.

(H) Pavement Section

(1) The subgrade for all subdrains and curb and gutter shall be graded, processed and compacted. Once the compaction passes, the 'R' value of the soil may be taken to ensure adequate roadway section designed.

(2) The project geotechnical engineer shall certify subgrade and shall provide a written certification of such.

(3) Aggregate Base shall be compacted to ninety-five percent (95%) relative compaction per ASTM D1557.

(4) Curb Gutter and Sidewalk forms/string lines shall be inspected and approved before the placement of concrete. The concrete shall cure at 2500 psi or seven (7) days whichever comes first prior to the placement of remaining Aggregate Base.

(5) Prior to concrete gutter installation, the project engineer/survey shall verify that all catch basins are at the correct elevation, and submit data engineering sheets to the City for our records.

(6) City Inspector shall approve grade and certify on site.

(I) Wet Utilities Inspection

(1) At the completion of at least 80% of rock grade, all sewer lines shall be tested in accordance with the local sewer district requirements (DSRSD or CCCSD).

(2) Water line pressure shall be tested and chlorinated in accordance with the local water district requirements (DSRSD or CCCSD). Chlorine has to set in the water line for a minimum of 24 hours before it is flushed out.

(3) Water samples shall be taken for laboratory testing and certification to guarantee the absence of bacteria.

(4) TV testing of all storm drainage system in present or future City-owned and maintained storm drain system is required.

(J) Asphalt Installation

(1) Prior to the placement of asphalt, an asphalt mixture shall be submitted according to the City Standard Plans and Specifications. All sewer and water testing shall be completed prior to placement of asphalt.

(2) In any project in which water mains, sewer mains, storm drain lines, dry utilities, and street improvements have been or are to be installed, the subdivider, before paving or otherwise completing the surface of the streets, shall install and test these utilities.

(3) Placement of asphalt per the pavement design section on the improvement plans in minimum 2-2 ½ inch lifts.

(4) Compaction testing of Asphalt shall be required during paving of all lifts to ensure that it has met the City and Caltrans requirements and specifications.

(5) Building permits can be issued only after completion of the first lift of pavement minimum throughout the entire project scope identified on approved improvement plans.

(6) Prior to City acceptance of all streets, a gutter water flow test shall be performed to ensure positive drainage to the nearest catch basin.

(K) Contractor shall adjust required sewer manholes and water valves at least forty-eight (48) hours after paving of top lift. If only bottom lift is paved all water valves need to be accessible.

(L) Punch List

(1) A walk-through with the developer/owner, contractor or their representative shall be conducted with the City Inspector in charge of the project. A walk-through shall be performed only upon completion of all improvements as shown on approved plan and required and included as part of Conditions of Approval for a project and a minimum of 80% occupancy of homes in residential projects.

(2) A punch list shall be provided to the developer for compliance and completion of all items within an acceptable timeframe as required by the Public Works Director.

(3) The City Inspector shall verify the completion of all punch list items and shall then submit a “Letter of Completion” to the Engineering Services Division recommending that the project can be processed for City Council acceptance and release of applicable bonds(refer to “Documentation for Project Acceptance” proceeding this section).

Note: After the City Council acceptance of the improvements, the maintenance/warranty bond shall take effect for one (1) year for both the civil improvements and the landscaping improvements.

(4) Eleven (11) months after the City Council acceptance of the project, the City Inspector will conduct another documented punch list walk-through, which will also be provided to the developer/owner. This is the “end of warranty inspection.”

(5) Developer/owner shall complete and satisfy the City all punch list items before the one (1) year maintenance/warranty period ends. Once the maintenance/warranty period has expired, and all punch list items has been completed, the maintenance/warranty bond shall be released.

(6) If the developer/owner has not completed the punch list items within the one (1) year maintenance/warranty expiration, the City will send a letter to the bonding company requesting that the required funds be made available to the City for the completion of the project per the final punch list items.

2. DOCUMENTATION FOR PROJECT ACCEPTANCE AND SECURITY RELEASE

(A) Developer shall submit a formal request for project acceptance, listing all bonds with the corresponding amounts to be released.

(B) ALL improvements, as shown on approved plans, and required and included as a part of Conditions of Approval for a project, as well as a minimum of 80% of home occupancy in residential projects, shall be completed prior to acceptance of improvements by the City. Various scopes of work shall not be accepted independently of the entire project completion without special consideration and approval by the Public Works Director.

Security posted a guarantee for improvements shall not be released or reduced prior to completion of ALL improvements and punchlists, as shown on approved plans, and required and included as a part of Conditions of Approval for a project, as well as 80% home occupancy in residential projects, and security shall be released only upon acceptance action by the City.

(C) Written certification from other involved agencies and/or parties (when applicable), not limited to those referenced below, stating that all work required on the project in their jurisdiction has been accepted:

(1) U.S. Army Corps of Engineers

(2) East Bay Regional Park District

(3) Contra Costa County Department of Health Services

(4) California Department of Fish and Wildlife

(5) California Regional Water Quality Control Board

(6) East Bay Municipal Utility District (EBMUD)

(7) Contra Costa County

(8) California Department of Transportation (Caltrans)

(9) Dublin San Ramon Services District (DSRSD)

(10) Central Contra Costa Sanitary District (CCCSD)

(D) A written certification to the City of San Ramon Engineering Services Division shall be provided with a statement that all grading and improvements have been substantially graded and constructed as shown according to the approved plans. Certification shall also state all building pads and street subgrades have been constructed within .10’ of approved plans.

(E) A written statement by the project surveyor shall be provided to the City certifying that survey monuments have been set in accordance with the approved and recorded Final Map. In addition, the letter shall state that the surveyor on record has been paid for his services.

(F) The following soils and geologic grading reports shall be submitted:

(1) Soils Compaction Test Results (including location and elevation of field density test).

(2) Summaries of field and laboratory tests and construction observations and description of any changes in earthwork that earthwork compaction and improvements were constructed in accordance with the plans and specifications.

(3) A letter from the soils company who conducted all tests that their services had been compensated.

(4) As-built or record drawings of all subdrain systems.

(G) All punch list items shall be completed prior to requesting project acceptance.

(H) A complete set of "Record Drawings" (As Builts) shall be submitted including a statement clearly marked on each sheet, date stamped and signed by the record engineer or architect, stating accurate field conditions.

The set of "Record Drawings" shall show all original signatures as previously signed when the City approved said plans.

Under no condition shall the City accept Record Drawing plans marked as "Previously Approved" on any of the signature blocks. (This requirement applies to all plans not limited to Grading, Improvement, Joint Trench Utility, Irrigation, Landscape, Erosion Control or Traffic Signal and Striping).

(I) Electronic files of the "As- Built" with the required data as stated in the Submittal Procedures section.

(J) All overtime charges billed to the developer by the City shall be cleared and must be paid in full. In addition all citations received from the City shall be paid in full.

(K) Submit warranty/maintenance bonds.

(L) All off-site improvements shall be completed and accepted prior to or concurrently with the on-site improvement project acceptance.

(M) A video of all storm drainage system installed for City review and approval. After review of the video, necessary repairs as directed by the City Engineer may be required.

Chapter XII

TRAFFIC MANAGEMENT

XII

TRAFFIC MANAGEMENT

1. BASIC REQUIREMENTS

All traffic studies submitted to the City must be prepared by a professional traffic engineer or civil engineer holding a valid license issued by the State of California.

2. TRAFFIC STUDY – DETERMINATION OF NEED

(A) When a traffic study is required:

A traffic study is required when a project would potentially cause a substantial increase in traffic in relation to existing traffic levels and the capacity of the street system. A traffic study shall be required if any of the following conditions exist:

(1) The traffic generated by the project exceeds 50 trips during one hour period during the a.m., midday, or p.m. peak period as determined by standard unadjusted trip generation rates of a recognized source (e.g., Institute of Transportation Engineers, Caltrans).

(2) The Engineering Services Division finds that a traffic study is required based on the location, size or other characteristics of the subject project. For example, in areas where any amount of additional traffic may impact a congested or high-collision location, or when specific site access or safety issues are of concern.

The California Department of Transportation provides additional guidance for projects affecting state facilities in Caltrans' *Guide for the Preparation of Traffic Impact Studies*.

(B) When to update an existing traffic study:

When a proposed project undergoes significant changes or delays after the traffic study has been prepared, the traffic study must be supplemented or updated as follows:

Table I:
Requirements for Updating or Supplementing an Existing Traffic Study

Requirement	Criteria
Provide a **Supplemental Letter** to document that changes are within the allowable criteria	Traffic study less than 2 years old and Trip generation increase less than 10% and Project access is unchanged
Provide a **Technical Memorandum** that examines the changes and provides any revised recommendations	Traffic study less than 2 years old and Trip generation increase greater than 10% or if the Project access has changed
Provide a **Technical Memorandum** with updated counts, trips, Level of Service, and recommendations	Traffic study greater than 2 years old and Trip generation increase less than 10% and Project access unchanged
Provide a new revised **Traffic Study**	TIA greater than 2 years old and Trip generation increase greater than 10% or Project access changed

3. TRAFFIC STUDY – REQUIREMENTS – CONTENT

If the Engineering Services Division determines that a traffic study (the study) is necessary, the Engineering Services Division shall hire a consultant to perform the study. The Engineering Services Division may require the project applicant to supply whatever information may be necessary for the preparation of the study. The division is responsible for the adequacy and objectivity of the study. The project applicant shall be responsible for the entire cost of the preparation of the study, including consultant fees and city expenses. The division may require the project applicant to post a bond, pay for estimated municipal and consultant costs prior to the preparation of the study, or use other mechanisms to guarantee payment for costs incurred or to be incurred.

(A) Traffic Study Format Example

The content and scope of the traffic study will vary with the needs of each project. Based on the assumptions and scope determined for the project, the following information must be included in the study, when appropriate:

(1) Cover sheet including name and location of project, developer name and address, traffic engineer name and address, engineer's stamp and signature, and date.

(2) Table of Contents, including list of Figures and Tables.

(3) Executive Summary. A brief stand-alone summary of the study findings, including a description of the project, study scope, and recommended

project improvements. Include a "Mitigation Map Figure" and "Impact Summary Tables".

(4) Introduction, purpose and scope.

(5) Description of the proposed development including:

(a) Location map showing study area land use and streets

(b) Site plan showing internal circulation, parking, driveways, access locations

(c) Proposed uses with existing and proposed zoning requirements.

(d) Phasing plan including proposed dates of project phase completion

(6) Setting. Include a description for the following and provide maps:

(a) Existing roadway system within and around the project area

(b) Short-term programmed roadway improvements

(c) Location and routes of nearby public transit service

(d) Location and routes of nearest bicycle and pedestrian facilities serving the project

(7) References to other related traffic impact studies

(8) Clearly stated assumptions

(9) Analysis of Existing Conditions. Include graphical figures and/or tables showing:

(a) Land use / zoning, study intersections and roadway segments

(b) Lane geometry and existing traffic volumes without project traffic, assuming existing transportation facilities and capacities

(c) Level of service (LOS)

(d) Signal warrants; signal phasing and coordination

(e) Queue analysis

(f) Collision history and collision rate analysis

(g) On-street parking

(h) Pedestrian and bicycle facilities and counts, and transit services

(10) Analysis of Near-Term (without project) Conditions. Include graphical figures and tables showing:

(a) Peak hour turning movements without traffic from the subject project, assuming transportation facility improvements programmed in the City's Five-Year Capital Improvement Program, State Transportation Improvement Plan (STIP) or adopted capital improvement plans of other jurisdictions

(b) Level of service

(c) Signal warrants

(d) Queue analysis

(11) Analysis of Project-Only Conditions. Include graphical figures and tables showing:

(a) Project access, on-site circulation and parking

(b) Trip Generation table showing rates and clearly showing trip discounts

(c) Trip distribution percentages figure

(d) Project trip assignment figure showing project-only trips at all study intersections, roadway segments, and project driveways

(12) Analysis of Near-Term Plus Project Conditions. Include graphical figures and tables showing:

(a) Peak hour turning movement volumes, assuming transportation facility improvements programmed in the City's Five-Year Capital Improvement Program, State Transportation Improvement Plan (STIP) or adopted capital improvement plans of other jurisdictions

(b) Level of service (with and without recommended project improvements)

(c) Signal warrants

(d) Queue analysis (with and without recommended project improvements)

(13) Analysis of Cumulative Conditions. Include graphical figures and tables showing:

(a) Peak hour turning movement volumes without traffic from the subject project, assuming completion of the San Ramon General Plan Circulation Network and other long-term regional transportation improvements

(b) Level of service

(c) Signal warrants

(d) Queue analysis

(14) Analysis of Cumulative Plus Project Conditions. Include graphical figures and tables showing:

(a) Peak hour turning movement volumes, assuming completion of the San Ramon General Plan Circulation Network and other long-term regional transportation improvements

(b) Level of service (with and without recommended project improvements)

(c) Signal warrants

(d) Queue analysis (with and without recommended project improvements).

(e) Traffic safety

(15) Transit, Bicycle, and Pedestrian Analysis

(16) Traffic Impacts and Recommended Project Improvements:

(a) Summary table of daily and peak hour LOS, with and without project improvements

(b) Findings for near-term and cumulative impacts and special analysis

(c) Responsibility for mitigation of near-term and cumulative impacts

(d) Mitigation measure phasing plan

(e) Project's fair share costs

(f) Cost estimates for mitigation and financing plan

(g) Map or aerial photograph showing proposed improvements

(17) Technical Appendices must include:

(a) Raw traffic count data

(b) Detailed worksheets for all LOS analysis (including project improvements), signal warrants, queuing analysis calculations, and fair share calculations

(c) Collision data

(d) Other back-up data: for example, supplemental trip generation documentation; future volume forecasting methodology and model plots used; documentation of programmed roadway improvements; etc.

(18) A copy of the final traffic study and all appendices must be provided on a CD

(B) Submittals and review. The project applicant must submit three (3) bound copies of the draft traffic study, including appendices, to the City. A preliminary review will determine if the draft report was prepared in accordance with these guidelines. If deviations are identified, the traffic study must be considered incomplete and the City will forward a notice of technical deficiencies to the preparer.

Upon submittal of a draft traffic study consistent with these guidelines, the City will conduct a final review. If additional information is needed to clarify or support the findings in the traffic study, a written request for revisions will be forwarded to the preparer. Following completion of the final review, the engineer must prepare and submit five (5) bound copies of the final traffic study. The City may require additional copies of the traffic study. A copy of the complete final traffic study and appendices must be provided on a CD.

Development applications cannot be deemed complete until the City receives the final approved traffic study. All materials submitted to the City are part of the public record and become the property of the City of San Ramon.

4. SCOPE OF ANALYSIS

To facilitate development review, the project applicant and the applicant's licensed engineer should meet with City transportation and planning staff to determine the appropriate scope for the traffic study. A standard scoping form is provided in Appendix H for use during this scoping meeting. Preparation of the draft traffic study should not begin until after the City approves the study scope. The planner assigned to the project will provide a letter to the applicant approving the scope of the traffic study. Considerations for the scope of analysis may include some or all of the following:

(A) General Information

(1) Study Area. The study limits are based on the proposed development size, the land use, and the existing traffic conditions around the site.

(2) Scenarios and Analysis Periods. The traffic study must analyze the following scenarios:

(a) Existing conditions

(b) Near-term Conditions: existing plus approved / pending projects

(c) Near-term Plus Project: existing plus approved / pending projects plus project

(d) Cumulative conditions

(e) Cumulative plus project

(f) Any other scenario which is determined to be critical to the project traffic, such as special event traffic or recreational and/or seasonal traffic that may vary peaking conditions

The near-term scenario is assumed to be one year after full occupancy of the development, based on a reasonable estimate of the project's development rate. Multi-phased projects may be required to evaluate the estimated conditions one year after full occupancy of each development phase and determine the timing of recommended project improvements.

At a minimum, traffic studies for commercial projects must evaluate each scenario during weekday PM and Saturday midday peak hour periods; residential, office, and industrial projects must evaluate each scenario for weekday AM and PM peak hour periods.

(3) General Plan Amendments. Projects that include a General Plan Amendment and would consequently increase the potential traffic generation by more than 10 percent must also provide analysis based on the current planned land use as well as the proposed land use.

(4) Approved and Pending Projects. A list of approved and pending projects, assumed to be constructed and fully occupied in the analysis, will be developed as part of the early coordination with City transportation and planning staff.

(5) Programmed Transportation Improvements. The roadway network (without the project) is assumed to include all future programmed transportation facility improvements within the study area, as reflected in the General Plan or as established with other project approvals. A list of programmed improvements will be developed as part of the early consultation with City transportation and planning staff.

(B) Required Data

(1) Traffic Counts. Collect new peak hour turning movement counts at each of the study intersections identified in the approved scope of work. Collect new daily traffic counts on each roadway segment identified in the scope.

(2) Existing traffic count data from the City or from other approved project's traffic studies may be used if the count data is less than two (2) years old and no significant project development or change in traffic has occurred in the surrounding area.

(3) Pedestrian Counts. Collect new pedestrian counts at each of the study intersections identified in the scope.

(4) Other Data. The City can provide other available data, including traffic signal timing data and collision data, if needed. The preparer should request available data when the scope of work is finalized.

(C) Intersections

(1) Selection of Study Intersections. The study should include any signalized intersection to which at least 50 project trips would be added.

(2) Intersection Analysis. Identify potential traffic impacts at each study intersection and all project access locations for each scenario. The traffic

study must provide delay, level of service (LOS), volumes to capacity (v/c) ratios, and 95th percentile queue lengths. Two-way stop controlled intersections must also report these parameters for the worst-case turning movement.

(3) Signal Warrants. Prepare a warrant analysis at each unsignalized intersection having a deficient LOS for each scenario.

(4) Turn Lane Storage. Identify impacts to existing turn lane storage capacities due to blocking or overflow conditions.

(5) Closely Spaced Intersections. Identify potential traffic impacts resulting from excessive queue lengths or inadequate storage due to traffic interactions between closely spaced intersections when the intersection spacing is less than 250 feet or when the 95th percentile traffic queue exceeds the intersection spacing.

(D) Roadways

(1) Roadway Segment Analysis. Provide roadway segment LOS analysis and identify potential traffic impacts on all local residential streets, internal or adjacent to the project, which are estimated to carry 2,000 or more daily vehicle trips. On local streets internal to the project, the traffic study must make recommendations to reduce this volume to less than 2,000 trips per day. On local streets external to the project, the traffic study must make recommendations for traffic calming if the local segment exceeds 2,000 trips per day.

(2) Coordinated Corridors. For developments that contribute significant traffic to any of the City's coordinated corridors, analysis must be provided to identify project impacts to the LOS of the overall coordinated system. If the project will negatively impact the corridor's signal coordination, the analysis must provide a new or updated signal coordination plan along the coordinated corridor for review by the City. The coordination plan must consider, at a minimum, the weekday AM, midday, and PM periods. Electronic coordination files must be provided along with paper coordination plans and they shall become the property of the City.

(3) Weaving and Merging. Provide weaving section LOS analysis and ramp merge / diverge LOS analysis on Caltrans affected facilities identified in the scope.

(4) Speed Survey. Provide a radar speed survey to determine the average and 85th percentile speeds on study roadway segments having a previously identified speeding concern.

(5) Cut Through Traffic. Provide a cordon license plate survey to determine existing cut-through traffic and to identify project impacts.

(6) Traffic Accidents. Provide a collision analysis and identify potential safety impacts.

(E) Project Analysis

(1) Project Driveways and Access. The report must evaluate each proposed project access point for:

(a) Safety of ingress and egress

(b) Minimum sight distance requirements

(c) Turn lane configuration and type of traffic controls

(d) Minimum required throat depth and 95th percentile queue lengths

(e) Left-turn, right-turn and acceleration lanes

(f) Shared driveway and access restrictions (right-in / right-out, etc.)

(g) Impacts to adjacent driveways and intersections

A signal warrant analysis must be provided for any new signal proposed at a project access. The cumulative analysis of project driveways must include the effect of traffic loading from the buildout of adjacent vacant properties that would take future access directly opposite the project access points.

(2) On-site Parking and Circulation. Provide an evaluation of the adequacy of on-site parking and identify impacts to off-site parking. Provide an evaluation of on-site circulation, including truck loading and turning radii.

(3) Drive-thru Facilities. Provide a queuing analysis for all proposed on-site drive-thru facilities.

(4) Project Phasing. Complete a phasing analysis to relate potential traffic impacts to specific phases of the proposed project.

(F) Other Analysis

(1) Bicycle and Pedestrian Facilities. Identify existing or planned bicycle and pedestrian facilities that may be affected by the project, determine consistency with the General Plan, and identify potential project impacts.

(2) Transit. Identify all bus routes having a stop within 1/4 mile of the project and evaluate pedestrian access routes from the project to the stops.

(3) Safety. Provide an evaluation of potential traffic safety impacts and recommend project improvements for potentially increased hazards caused by additional project traffic, design features, or incompatible land uses.

(4) Community Input. When required, reasonable requests generated by the community should be addressed in the study.

(5) Analysis of Recommended Project Improvements. As identified in the traffic study scope, the following analysis may be required:

(a) Determine the cumulative pro-rata fair share for improvements, based on Caltrans methodology. (See Appendix E of Caltrans' *Guide for the Preparation of Traffic Impact Studies*).

(b) Provide a schematic scaled drawing showing the required geometric improvements and right-of-way needs for negatively impacted roadways.

(c) Provide a preliminary cost estimate for improvements.

(d) Provide a preliminary design for the purpose of demonstrating the feasibility of a proposed project improvement.

(6) Supplemental Documentation. The City may require other focused traffic analysis relative to the proposed development including traffic calming, safe routes to schools, emergency routes, traffic index for pavement sections, etc.

5. METHODS

In order to ensure the adequacy of traffic analysis, the traffic study must be based on the following standard methods:

(A) Data Collection Method

(1) Traffic Counts. Turning movement counts must be collected at 15-minute intervals for the following peak periods:

(a) Weekday a.m. peak: 7:00 a.m. to 9:00 a.m.

(b) Weekday p.m. peak: 4:00 p.m. to 6:00 p.m.

(c) Saturday midday: 11:00 a.m. to 1:00 p.m.

(d) Traffic counts for other time periods will be required if the peak hour trips for the project fall outside these time ranges.

(2) Weekday vehicle counts should be conducted on Tuesdays, Wednesdays, and/or Thursdays in dry weather conditions when school is in session. Data must not be collected during holidays, days immediately before or after holidays, or during the last two weeks in December. Data should not be collected at times when spring break could significantly alter the data.

(3) Historical traffic counts may not be used if more than two years old.

(4) Traffic counts are to represent the actual traffic demand, not just the capacity of a facility. For study locations where saturated conditions exist for longer than the peak hour, the actual peak hour demand must be determined from the traffic counts (i.e., capacity) and the corresponding traffic queues (i.e., unserved demand) by noting the queue lengths at the beginning and end of each 15-minute interval. Actual traffic demand must be used in the analysis.

(B) Project Trip Generation Method

(1) Land Use. Professional judgment should be used in determining the appropriate land use categories from the current edition of Institute of Transportation Engineers' (ITE) *Trip Generation*. When ITE data is not available or if the available ITE categories are inadequate for a specific project, other data sources may be acceptable, such as San Diego Association of Governments Trip Generation, ITE Journal articles, or local trip generation rates based on a local trip generation study following the procedures prescribed in the ITE *Trip Generation Handbook*. Appropriate supporting information and pre-approval is required for the use of these other data sources.

(2) Trip Generation. The official source for trip generation for the project and for all approved/pending projects will be the latest version of the ITE *Trip Generation*.

(a) Consideration will be given to the use of other published reports and papers (such as those listed above) if properly referenced and included with supporting documentation. Additional consideration will be given to original research work of similar or like conditions with suitable documentation.

(b) The time period selected should reflect peak travel on adjacent streets.

(c) The guidance provided in the latest edition of the ITE *Trip Generation Handbook* must be used to determine the appropriate use of either the average rates or rates from the regression equations.

(d) A summary table shall be provided that lists each type of land use, the measurable unit of the project used to determine traffic impacts (e.g., square footage, occupancy, employees, acreage, etc.), the appropriate trip generation rate (total daily traffic and peak hours of the adjacent streets), and resulting total daily and peak hour trips generated by the project.

(3) Trip Reduction. Potential reductions in project trip generation may be considered, when approved by the City in advance. Reductions to trip generation must be based on the guidance provided in the latest edition of the ITE *Trip Generation Handbook*. The potential reductions are:

(a) Existing project site trips may be deducted in the analysis if they are included in the existing traffic counts and the existing traffic distribution is similar to that for the proposed project.

(b) Pass-by trips may be deducted for retail developments. Pass-by trips are existing trips which, when passing the site on an adjacent street with direct access to the site, are attracted to the project. The traffic study must provide justification for reductions greater than 15 percent. Pass-by percentages identified in the most recent edition of the ITE *Trip Generation Handbook* may be used.

Analysis of turning movements at project access points generally must include the pass-by trips.

(c) Internal or captured trips are trips that do not enter or leave the driveways of a project within a mixed-use development's boundaries. Reductions greater than five (5) percent require justification in the traffic study.

(d) Trip reductions will be considered for Transportation Systems Management / Transportation Demand Management (TSM/TDM) measures. The estimates for trip reduction shall be well documented arguments presented for consideration by the transportation services division to assure the long-term validity of any proposed reductions prior to their use in the traffic analysis.

(C) Project Trip Distribution Method

(1) Trip distribution assumptions are to be clearly stated in the report, including the distribution at all project access points. The consultant shall determine the project trip distribution based on the traffic network expected to exist upon completion of the project.

(2) Directional trip distribution should reflect population and employment distribution for existing and future conditions as provided by the Contra Costa Transportation Authority (CCTA) Travel Demand Model, existing traffic patterns, market analysis, census tract data and/or Association of Bay Area Governments (ABAG) projections and professional judgment; survey information of existing or similar uses may be used as determined appropriate. Distribution of trips to and from a proposed site should consider variations based upon trip type (work, school, home, etc.), travel time on congested routes, and dissipation of traffic along travel corridors.

(3) The trip distribution must be presented for each phase if changes in roadway network, access, or land use are proposed. Final acceptance of the trip distribution assumptions are subject to approval of the City Traffic Engineer.

(D) Existing and Projected Traffic Method

(1) Graphics. The traffic study shall provide graphics which show peak hour turning movement volumes at project driveways and designated study intersections within the study area for the scenarios / conditions described in the “Traffic Study Format Example” section.

(2) Cumulative Traffic Forecasting. Cumulative traffic projections will be determined based on current travel demand forecasting model projections and/or projections of traffic growth.

(a) The current version of the CCTA travel demand forecasting model must be used as the basis for projecting future traffic volumes. Projections will be based on the growth-increment method or the growth rate method. The analysis must investigate the land use

assumptions for the study area and make forecast adjustments as necessary.

(b) The methodology outlined in the CCTA *Final Technical Procedures Update* (July 19, 2006) will be used to obtain reasonable intersection turning movements from the travel demand forecasting model.

(c) The study must clearly describe changes made in the CCTA travel demand model to accommodate the analysis of the proposed project.

(E) Level of Service (LOS) Standard

The minimum LOS standard to be used in the analysis must be consistent with City of San Ramon's General Plan:

(1) The minimum acceptable LOS at intersections shall be the upper bound of LOS D (i.e., V/C ratio not greater than 0.90).

(2) For state-owned facilities, Caltrans' *Guide for the Preparation of Traffic Impact Studies* states: "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained." Projects impacting state facilities are subject to review by Caltrans.

(F) Analysis Methods

(1) Intersection Level of Service Analysis

(a) Signalized Intersections – CCTA LOS. The LOS analysis of the existing transportation network shall be calculated using the methodology outlined in the CCTA Final Technical Procedures Update (July 19, 2006): a methodology similar to the Intersection Capacity Analysis Circular 212 Planning Methodology, as published by the Transportation Research Board National Academy of Science, Washington D.C., 1980, except the through movement capacity is increased from 1,500 vehicles per hour to 1,800 vehicles per hour. If roadway modifications requiring amendments to the general plan transportation element are necessary, they shall be evaluated using the CCTA LOS methodology.

Table III: Level of Service as a Function of V/C Ratios

Level of Service	Range of V/C Ratios
A	≤0.60
B	0.61-0.70
C	0.71-0.80
D	0.81-0.90
E	0.91-1.00
F	>1.00

(b) Signalized Intersections – Highway Capacity Manual LOS. As a supplement to the CCTA LOS, the signalized intersections in the study area shall also be analyzed based on the Operational Methodology outlined in the latest edition of the Transportation Research Board's *Highway Capacity Manual* (HCM).

(c) Unsignalized Intersection LOS Analysis. The Operational Methodology outlined in the latest edition of the HCM must be used for unsignalized intersections. Two-way stop controlled intersections must report LOS for the worst-case turning movement.

(d) Roundabout Intersection Analysis. Roundabout intersections should be analyzed using SIDRA or RODEL software.

(2) State Facilities. All designated study intersections that are State facilities must be analyzed using methods consistent with the latest version of Caltrans *Guide for the Preparation of Traffic Impact Studies*.

(a) Highway weaving analysis must be consistent with Caltrans' *Highway Design Manual* methodology.

(b) Ramp merge and ramp diverge analysis must be in accordance with the latest HCM methodology.

(3) LOS Analysis Scenarios. LOS analysis shall be prepared reflecting peak hour traffic conditions at all designated study intersections for the scenarios described in the "Traffic Study Format Example" section. In addition, LOS analysis shall be prepared for Project-related traffic impact mitigation measures for Near-Term plus Project and Cumulative plus Project conditions.

(4) The results of the preceding LOS analyses shall be presented in a tabular format which includes the estimated V/C ratio and/or delay and corresponding LOS for each analysis scenario at all designated study intersections.

(5) Closely Spaced Intersections. The analysis must account for interaction between individual intersections, saturated flow metering, and queue spillback between intersections. Micro simulation using the average of

multiple runs must be used in evaluating the compound effects of closely spaced intersections when the intersection spacing is less than 250 feet (measured between curb extensions) or when the estimated 95% queue lengths exceed the distance between intersections.

(6) Traffic Signal Analysis (Signal Warrants). The study shall determine the need for new traffic signals determined in accordance with the most current edition of the Caltrans Traffic Manual. Traffic progression and pedestrian movements must be considered in the evaluation of traffic signal needs.

(7) Traffic Accidents. Special studies of traffic accidents may be required on critical corridors related to the project as required by the Engineering Services Division. The study period would normally be two years with base data provided by the City. Changes in accident potential should be related to changes in traffic attributed to the project and safety mitigation measures should be included where necessary.

(8) Project Access. Minimum sight distances must be in accordance with AASHTO's *A Policy on Geometric Design of Highways and Streets*.

(9) Fair Share. Fair share determination must be based on Caltrans methodology as provided in Caltrans' *Guide for the Preparation of Traffic Impact Studies*. The project's fair share must be based on the peak hour volumes that resulted in the need for the recommended improvement. If more than one peak hour triggers the need for improvements, then the fair share must be based on the average of the peak hour volumes.

(10) Analysis Consistency. When two concurrent and overlapping traffic studies analyze the same intersection(s), the analysis shall be coordinated for consistency.

6. SIGNIFICANT IMPACT AND MITIGATION THRESHOLDS

A nexus exists between a proposed development and a significant traffic impact when the development causes any of the following thresholds to be exceeded in any scenario:

(A) Signalized Intersections

(1) The project causes an acceptable LOS to decline to an unacceptable LOS, or

(2) The project increases the average delay by more than 5 seconds per vehicle at an intersection having an unacceptable LOS without project traffic, or

(3) The project causes the V/C ratio to increase by more than 0.02 at an intersection that has an unacceptable LOS without project traffic.

(B) All-Way Stop Intersections

(1) The project causes an acceptable LOS to decline to an unacceptable LOS, or

(2) The project increases the average delay by more than 5 seconds per vehicle at an intersection that has an unacceptable LOS without the project and the intersection also meets the peak hour volume signal warrant.

(C) Two-Way Stop Intersections

(1) The project causes a turning movement's acceptable LOS to decline to an unacceptable LOS and the peak hour volume signal warrant is met.

(D) Traffic Queues

(1) The project causes traffic queues to exceed the available storage length or spill over into adjacent intersections.

(E) Site Access

(1) The project causes traffic at site access points to interfere with traffic flow on public streets.

(F) Bicycles and Pedestrians

(1) The project adversely affects an existing bikeway or pedestrian facility, or

(2) The project interferes with implementation of a planned bikeway as shown in the General Plan

7. RECOMMENDED PROJECT MITIGATION

The study must make feasible recommendations that reduce the project's significant impacts to a less-than-significant level. The study must clearly identify responsibility for implementing each recommendation. The timing for when specific recommendations will be needed must be identified in the study, either by estimated year of implementation or by development threshold.

The report must provide LOS analysis of the recommended project improvements and summarize the recommendations in a map figure of the study area, calling-out the near-term and cumulative recommendations.

(A) Mitigation Requirements. If the study identifies significant traffic impacts to any critical intersection within the study area, mitigation measures shall be identified which reduce project impacts below the threshold of significance and which result in acceptable LOS at all study intersections. Mitigation which may be assumed for the purpose of estimating future traffic conditions may include roadway improvements programmed by the city, adjacent municipalities, Contra Costa County and/or Caltrans for which funds have been appropriated or obligated. The mitigation section shall include the following:

(1) Proposed Transportation Improvements for Project Mitigation. The location, nature and extent of proposed improvements to the transportation system must be determined and described to assure sufficient roadway capacity. Identify all mitigation measures required by the project. All intersection and roadway improvements required to

mitigate significant project impacts or unsatisfactory levels of traffic service must be listed and identified in the following categories:

(a) Significant project impacts or unsatisfactory LOS for which feasible mitigation is available. Mitigation measures shall be identified.

(b) Significant project impacts or unsatisfactory LOS for which feasible mitigation is included in or would require inclusion of improvements in the city's five-year capital improvement program from the date of project approval. Consideration of mitigations under this condition shall require:

i. Development of conceptual plans in sufficient detail to permit preparation of cost and funding estimates, and cost and funding estimates shall be prepared.

ii. Identification of funding mechanisms to insure implementation of the capital improvement project.

iii. Mitigation measures shall be consistent with the General Plan of the city of San Ramon, or amendments thereto.

(2) Improvement Plans and Cost Estimates. A detailed sketch of each mitigation measure identified in this subsection and approved by the department shall be provided together with preliminary cost estimates. The sketch shall show the length, width, right-of-way and pertinent geometric features of the proposed improvements.

(B) Near-Term Project Impacts. The proposed project will be required to install the project's recommended improvements at the time of development in order to mitigate the project's significant short-term impacts.

(C) Cumulative Project Impacts. If the project’s fair share of a cumulative impact is 25 percent or more, then the recommended improvements must be installed at the time of development. If the project's fair share of a cumulative impact is less than 25 percent, then the project will be required to pay its fair share of the cost of the improvements to be constructed at a later date.

8. DETERMINATION OF MITIGATION CONTRIBUTIONS

The determination of project fees for traffic impacts shall be based on the need to mitigate project-related impacts, and the need to mitigate cumulative project impacts through the implementation of the General Plan Traffic and Circulation Element. Project-related mitigation contributions shall be provided to the city based on one or more of the following conditions:

(A) Traffic Impact Mitigation (TIM) Fee Requirements. All projects shall pay TIM fees, as required by the City Engineer.

(B) Reimbursement Agreement Location. A project impacting an intersection under an existing reimbursement agreement shall provide payment to the city on a

percentage base of the original intersection improvement cost in proportion to the project impacts, as required by the City Engineer.

(C) Roadway Improvement Agreement. The developer shall enter into an agreement providing for the construction of all off-site and/or project related on-site improvements within the public right-of-way, as identified in the traffic study. Assurance of mitigation improvements shall be provided to the City Engineer for review and approval.

(D) Improvements in Excess of Base Level Improvements. If a traffic study identifies improvements in excess of base level improvements, then the developer shall provide payment to the City for implementation of the same in proportion to project impacts.

(E) Request for Inclusion in the City Capital Improvements Program. Project mitigation requiring major improvements may be included in the City's Capital Improvements Program by written request to the community development department. Written request shall include a detailed description of the improvements requested, conceptual plans and cost estimates. If the City Council amends the Capital Improvements Program to include project mitigations, the developer will enter into an agreement with the City providing for improvement funding assurance.

(F) Project Exceptions to Mitigation Requirements. The City Council may grant an exception for a project only if the City Council finds that the benefits of a project, including any trip generation reductions, outweigh the project's anticipated negative impacts on transportation facilities. Projects meriting an exception shall only be projects with significant economic and/or high social value to the city. Examples of this type of project would include, but not be limited to, senior housing, schools, museums, hospitals, parks and recreational facilities, and historic preservation projects. Projects may merit consideration for exception if they significantly enhance the achievement of the goals of the city's redevelopment program.

(G) Special Conditions for Mitigation and Fee Exemptions. The following projects shall be exempt from traffic study mitigation requirements and/or mitigation fees provided in this policy:

(1) Conversion of apartments to condominiums, provided that TIM fee was paid, or street improvements were constructed in accordance with this program for the prior use;

(2) Remodeling or rehabilitation of projects for which no change in use, site traffic generation or size of building activity;

(3) Church without weekday peak hour activity;

(4) Reconstruction of burned-down buildings by the same owner provided no change in type of, or size of, use occurs;

(5) Businesses or residences which have been relocated to an existing building as a result of redevelopment or street improvement project;

(6) Child care facility with less than twelve children.

9. TRAFFIC CONTROL PLAN

During any time the normal function of a roadway is suspended, temporary traffic control planning must provide for continuity of function (movement of traffic, pedestrians, bicyclists, transit operations, and access to property/utilities). Effective temporary traffic control must provide for the workers, road users, and pedestrians. At the same time, it must provide for the efficient completion of whatever activity suspended normal use of the roadway.

(A) Each Traffic Control Plan (TCP) shall be developed consistent with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD), Chapter 6, "Temporary Traffic Control" (see website at *http://mutcd.fhwa.dot.gov/pdfs/2003r1/pdf-index.htm*), and Chapter 6 of the MUTCD California Supplement (see website at *http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/supplement.htm#6*). Data to be included will vary depending upon the complexity of the project, the volume of traffic affected, and the roadway geometrics where the construction is being performed. The TCP must clearly depict the exact sequence of the construction operation(s), the construction to be performed and the traveled way that will be utilized by all movements of traffic during each phase of construction. Multiple phases of construction may require a separate traffic control plan for each different construction phase or operation depending on similarity of work.

(B) Traffic movement should be disrupted as little as practicable. Drivers (including bicyclists) and pedestrians should be guided in a clear and positive manner while approaching and space traversing the temporary traffic control zone. To ensure acceptable levels of operation, routine inspection of traffic control elements should be performed. The maintenance of temporary traffic control zones requires attention during its life because of the potential increase in conflicts. The temporary traffic control zone includes the entire section of roadway between the first advance warning sign through the last traffic control device, where traffic returns to its normal path and conditions.

(C) This checklist should be used as a guide to ensure that all of the basic elements are included on the traffic control plan. Following the submittal of traffic control plans, all submittals deemed complete shall be reviewed within ten working days. A traffic control plan that does not include each of the appropriate elements will be deemed incomplete and returned for revision and re-submittal. The review period shall begin upon receipt of a complete traffic control plan.

Traffic Control Plan Requirements/Checklist:

(1) The Traffic Control Plan (TCP) shall be drawn on 24" x 36" or 11" x 17" sheets, unless otherwise approved by the City of San Ramon Department of Engineering Services. TCP's prepared for work occurring on all streets shown on the Circulation Element of the General Plan shall be prepared by a Registered Civil Engineer or Registered Traffic Engineer.

(2) TCP shall be prepared using ink or soft pencils using legible lettering and symbols, or using computer-aided-design (CAD) software.

(3) Indicate contractor's name, address and telephone number. Include name and telephone number of the 24-hour contact person representing the contractor.

(4) Indicate north arrow and scale or NOT TO SCALE (N.T.S.)

(5) Show all nearby streets with street names to assure proper orientation.

(6) Show existing traffic signals and regulatory signs, as appropriate.

(7) Show existing striping, pavement markings, painted crosswalks, and bike lanes.

(8) Show existing curbs, gutters, sidewalks, driveways and intersections in the construction work zone including areas affected by taper transition.

(9) Indicate total roadway widths. Dimension existing striping from edges of pavement.

(10) Indicate posted speed limits.

(11) Show location and dimensions of the construction work zone.

(12) Show staging area and materials storage area, as appropriate.

(13) Show plan for safely diverting pedestrian and bicycle traffic through the work zone.

(14) Indicate locations of construction signs. For each sign include the MUTCD number, sign size, and description.

(15) Show size, height, and location of all channeling devices, warning lights, flag trees, and portable barriers on the TCP. All devices must meet standards specified by the MUTCD.

(16) For each Flashing Arrow Board include its size, panel display and location on the TCP.

(17) If flaggers are used, include the number of flaggers and their location on the TCP.

(18) Label all taper lengths and widths, delineator spacing and sign spacing.

(19) Use a legend to define all symbols and designate them with MUTCD nomenclature.

(20) Show all parking restriction zones and signs, as appropriate.

(21) Road closures will require approval from the Public Works Director.

(22) Signs and barricades will be required to direct pedestrians through or around the construction work zone and shall be shown on the TCP.

(23) Clearly state the MUTCD sign number, size, description, height and location of all signs and other traffic control devices, including fences and barricades, within the pedestrian's safe route to walk, on the TCP.

(24) Indicate the encroachment permit number or improvement plans number on the TCP.

(25) Indicate on the plan the duration of the construction work and the subsequent traffic control.

(D) Traffic Control Plan General Notes:

(1) All traffic control devices shall conform to Chapter 6 of the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD), as amended by the latest edition of Chapter 6 of the MUTCD California Supplement.

(2) The Public Works Director or authorized representative has the authority to initiate field changes as necessary in the interest of public safety.

(3) A minimum of 12 working days is required for initial review of all traffic control plans. Subsequent submittals require 5 working days for review. Projects shall be planned to include required lead time for plan review.

(4) All traffic control devices shall be removed from view when not in use.

(5) General work hours shall be 9:00 a.m. to 3:30 p.m. unless approved otherwise. Work on arterials or near schools or where unusual traffic conditions are present may require special restrictions.

(6) Trenches must be backfilled or plated during non-working hours.

(7) Pedestrian controls shall be provided as shown on the plans.

(8) Temporary "NO PARKING" signs will be posted 72 hours prior to commencing work.

(9) Access to driveways will be maintained at all times unless other arrangements are made.

(10) The contractor shall replace within 72 hours, all traffic signal loop detectors damaged during construction.

(11) All striping removed or damaged, will be replaced by the contractor within 24 hours (or replaced with temporary tape until markings can be permanently restored).

(12) All workers shall be equipped with an orange vest (or a reflective vest at night). All flaggers shall also be equipped with a hard hat, C28 "STOP/SLOW" paddle and shall be trained in the proper fundamentals of flagging traffic.

(13) Any work that disturbs normal traffic signal operations shall be coordinated with the City of San Ramon's Traffic Engineering Unit of the

Engineering Services Division, at least 72 hours prior to beginning construction.

(14) The contractor shall maintain all traffic control devices 24 hours per day and 7 days per week.

(15) A minimum of twelve (12) foot travel lanes must be maintained unless otherwise approved.

(16) All night work will require written approval from the Department of Engineering Services. Lane closures, road detours, road closures, and traffic signal modifications associated with overnight construction activities will require warning signs be placed at least one week in advance of starting construction.

(17) A flashing arrow board shall be required for all arterial street lane closures.

(18) Where proposed traffic control plan is identical to MUTCD or other standard plans, a copy of the plan shall be included with the TCP submittal.

(19) Any project that is deemed to cause substantial impact to vehicles, pedestrians, or bicycles will require prior notice to residents, businesses, and the traveling public to City satisfaction (individual mailings, electronic message board signs, project information postings, etc.).

Chapter XIII

APPENDIX

Appendix A

PLAN CHECK SUBMITTALS APPLICANT CHECKLIST

Project Name & Number (i.e., Subd., CIP):_____

Date Accepted for Plan Check _____ By _____

The following items must be included in the original submittal package. Applications failing to include one or more of these items will not be accepted for processing. All plans shall have required signatures prior to submitting for final plan check and approval.

REQ	INC.		
			FIRST PLAN CHECK:
❑	❑	1.	5 sets bluelines for improvement plans, grading plans, final maps, parcel maps, etc.
❑	❑	2.	2 sets hydrology and hydraulic calculations (with hydrology map).
❑	❑	3.	1 completed copy "Public Improvement Plan Review Checklist".
❑	❑	4.	2 completed quantity and cost estimate
❑	❑	5.	Plan/Map checking deposit (see latest City Fee Schedule to calculate fees).
❑	❑	6.	2 copies of Preliminary Title Report (current 6 months).
❑	❑	7.	1 complete set of all applicable reference materials (approved Tentative and underlying Final Map, conditions of approval, adjacent improvement and grading plans, current soils report (two copies), sight distance calculations, cross sections, closure calculations, etc.)
❑	❑	8.	Stormwater Control Plan SWPPP and copy of "Notice of Intent" submitted to Regional Water Quality Control Board as required by most current Municipal Regional NPDES Permit
			SECOND (AND SUBSEQUENT) PLAN CHECKS:
❑	❑	1.	3 sets revised bluelines showing all requested revisions, corrections and additions.
❑	❑	2.	Return all previous check prints.
❑	❑	3.	3 sets preliminary joint trench composite plans.
❑	❑	4.	3 sets median/perimeter landscape plans.
❑	❑	5.	3 sets masonry soundwall plans and structural calculations.
❑	❑	6.	Any additional information deemed necessary by the City Engineer, or requested by the plan checker.
❑	❑	7.	If a letter has been sent out requesting additional funds for the plan check deposit account, the additional amount must accompany the subsequent submittal (unless received by the City prior to submittal).

Appendix B

LAYERING DESIGNATIONS

All line work shall connect at line end points, not overlapping or coming short of connecting. Polygonal objects, such as parcels or other such boundaries, shall be created from line segments, connecting to other line work at intersections. Polygons are not to be constructed from a single, closed polygon where coincidental boundaries occur. All text shall be placed in such a manner that the intersection point falls within the polygonal area.

Digital files for maps shall be submitted to the City prior to the approval of Final or Parcel Map. Upon completion of the project construction and prior to acceptance of the improvements by the City Council, digital files for all public, private, and site development improvements shall be submitted. These digital files shall contain all information shown on the approved plans; any approved changes or revisions, as well as all "As-Built" information. Any deviation from these requirements will be considered by the City Engineer on an individual project basis.

(A) REQUIRED DATA

(1) CHANNELIZATION/SIGNALIZATION DATA:

Striping and Legends	Traffic Signs and Signals

(2) CONTOUR DATA:

Contour Lines	Contour Elevations

(3) GRADING DATA:

Pad Elevation	Top of Curb Elevation
Street Grade	

(4) ROAD DATA:

Right-of-Way Lines	Street Name Sign Location
Centerline	Median Islands
Sidewalk	Retaining/Sound Wall
Driveway	Gutter Line Location
Curb Lines	Handicap Ramp
Street Lights	Tree/Shrubs

(5) SURFACE DATA:

Creek/Stream	Ditch
Lake/Pond	Marsh
Park	Railroad
Trails	Canals
Wells	Tanks

(6) SURVEY DATA:

Boundary Line	Monument Locations
Center Line	Lot and Parcel Lines
Easement Lines	Control Lines

(7) UTILITIES DATA:

Main Lines	Poles
Controllers	Vaults
Service and Laterals	Transformers
Meters and Valves	Lift Station
Cleanout	Manholes and Boxes
Culvert	Riprap
Catch Basin	

(B) LAYERS

(1) Introduction: The objective of setting up a Layering Standard to be used in Digital Mapping Systems is to reduce redundancy and duplication in map maintenance. This section defines the minimum standards for such digital submissions.

The format for digital submissions of the graphical data, which will be accepted by the City, shall be in the DWG, DXF or SHP format.

(2) Standard Layers: The City has broken down its layer convention to three categories, those being *Modifier, Group* and *Root:*

*Modifier*__Group_Root: For Example: EX_H2O_M12, would denote an existing 12" Water Main Line.

Two to four characters per category separated by an underscore (_) are used. This restricts the length of any layer name to a maximum of twelve characters, which is all that will appear on AutoCAD's layer manager.

Any drawing symbols and/or text styles other than the standard AutoCAD fonts used must be saved as separate drawing files.

(3) Modifier: The Modifier category is used to describe the proceeding Group category. In this category, there should only be a maximum of two characters before the underscore (i.e., EX_ for existing, PR_ for proposed, etc.).

(4) Group: The Group category groups objects into related fields, such as water, sanitary sewer, storm drainage, etc.

(5) Root: The Root category is used to break down the Group category into smaller divisions of objects to be worked with individually or in groups.

(6) "Read-Me" Layer: A 'Read-Me' layer (X_READ_ME) shall be included on each drawing for "not-to-be-plotted information" on file organization. Any new layers added to the standard layers shall be documented on the Read-Me Layer.

(7) Border: When working in paper space, all information contained in the border of the drawing (including text, logos, etc.) shall be placed under the BORDER layer.

(8) Color vs. Pen Weight - The City utilizes a color vs. Pen weight (black ink) configuration in plotting a hard copy of a drawing. The following pen to color assignments may be used or as a reference only:

Color vs. Pen Weight Table

Pen Weight (mm)	Color Number	Color Description
0.08 mm	1	Red
0.17 mm	2	Yellow
0.25 mm	3	Green
0.34 mm	4	Cyan
0.42 mm	5	Blue
0.51 mm	6	Magenta
0.59 mm	7	Black
0.68 mm	8	Light Gray
0.78 mm	9	Brown
0.85 mm	10	Dark Green
0.93 mm	11	Dark Blue
1.01 mm	12	Orange
1.10 mm	13	Purple
1.18 mm	14	Medium Gray
1.27 mm	15	Dark Gray
	All Others	All Others

(9) Standard Layers (Group and Root)

The "??" in all of the following layering conventions represents the modifier of the information. The following lists show the layering guidelines that have been established, and being in the format of layer name, linetype/block symbol/element, and description.

(10) Channelization Features

CHANNELIZATION FEATURES		
??_CHNL_AR*	{SYMBOL}	LANE CONTROL ARROWS
??_CNTR_BA	{SYMBOL}	CONCRETE BARRIER
??_CNTR_BD	{SYMBOL}	BARRICADE
??_CHNL_BL	CONTINUOUS	BIKE LANE
??_CHNL_DL	{SYMBOL}	DELINEATORS
??_CHNL_LG*	{SYMBOL}	STREET LEGEND
??_CHNL_LM	{SYMBOL}	LANE MARKERS
??_CHNL_MS	CONTINUOUS	MISCELLANEOUS
??_CHNL_SI	{SYMBOL}	SIGNAGE
??_CHNL_TS	{SYMBOL}	TRAFFIC SIGNAL
??_CHNL_TX	{TEXT}	TEXT
??_CNTR_WC	CONTINUOUS	WHITE CONT STRIPING
??_CNTR_WD	DASHED	WHITE DASH STRIPING
??_CNTR_YC	CONTINUOUS	YELLOW CONT STRIPING

??_CNTR_YD	DASHED	YELLOW DASH STRIPING

*- By size or type of facilities

(11) Contour Features

CONTOUR FEATURES		
??_CNTR_CN	DASHDOT	CONTOUR
??_CNTR_DI	DASHDOT	DEPRESSION INDEX CONTOUR
??_CNTR_DT	DASHDOT	DEPRESSION INTERMEDIATE CONTOUR
??_CNTR_EL	CONTINUOUS	ELEVATIONS
??_CNTR_IN	DIVIDE	INDEX CONTOUR
??_CNTR_IT	DIVIDE	INTERMEDIATE CONTOUR
??_CNTR_MS	CONTINUOUS	MISCELLANEOUS
??_CNTR_SU	DIVIDE	SUPPLEMENTAL CONTOUR
??_CNTR_TX	{TEXT}	TEXT

(12) Easement Features

EASEMENT FEATURES		
??_ESMT_AE	HIDDEN	ACCESS EASEMENT
??_ESMT_CE	HIDDEN	CONSTRUCTION EASEMENT
??_ESMT_EC	HIDDEN	ECCID EASEMENT
??_ESMT_GE	HIDDEN	GAS EASEMENT
??_ESMT_IR	HIDDEN	IRRIGATION EASEMENT
??_ESMT_MS	CONTINUOUS	MISCELLANEOUS
??_ESMT_PGE	HIDDEN	PG&E EASEMENT
??_ESMT_PH	HIDDEN	TELEPHONE EASEMENT
??_ESMT_PU	HIDDEN	PUBLIC UTILITY EASEMENT
??_ESMT_RW	HIDDEN	RIGHT-OF-WAY EASEMENT
??_ESMT_SD	HIDDEN	STORM DRAINAGE EASEMENT
??_ESMT_SS	HIDDEN	SANITARY SEWER EASEMENT
??_ESMT_TP	HIDDEN	TEMPORARY EASEMENT
??_ESMT_TV	HIDDEN	TELEVISION EASEMENT
??_ESMT_TX	{TEXT}	TEXT
??_ESMT_WA	HIDDEN	WATER EASEMENT
??_ESMT_WL	HIDDEN	WELL EASEMENT

(13) Gas Features

GAS FEATURES		
??_GAS_M*	DASHDOT	MAIN LINE
??_GAS_MS	CONTINUOUS	MISCELLANEOUS
??_GAS_MT*	{SYMBOL}	METER
??_GAS_LS*	DASHDOT	LATERAL SERVICE LINE
??_GAS_TX	{TEXT}	TEXT

??_GAS_VV*	{SYMBOL}	VALVE

*- By size or type of facilities

(14) Grading Features

GRADING FEATURES		
??_GRD_EL	DASHDOT	PAD ELEVATION
??_GRD_GB	CONTINUOUS	GRADE BREAK
??_GRD_HP	DASHDOT	HIGH POINT
??_GRD_MS	CONTINUOUS	MISCELLANEOUS
??_GRD_SG	CONTINUOUS	STREET GRADE
??_GRD_SLP	{SYMBOL}	TOP & TOE OF GRADED SLOPE
??_GRD_SL	DASHDOT WITH ARROWS	SWALE DIRECTION OF FLOW
??_GRD_TC	CONTINUOUS	TOP OF CURB
??_GRD_TX	{TEXT}	TEXT

(15) Irrigation Features

IRRIGATION FEATURES		
??_IRRG_BF	{SYMBOL}	BACKFLOW ASSEMBLY
??_IRRG_BB	{SYMBOL}	BUBBLER
??_IRRG_CA	CONTINUOUS	CANAL
??_IRRG_CTL	{SYMBOL}	IRRIGATION CONTROLLER
??_IRRG_LS*	HIDDEN	LATERAL SERVICE LINE
??_IRRG_M*	HIDDEN	MAIN LINE
??_IRRG_MS	CONTINUOUS	MISCELLANEOUS
??_IRRG_PS*	{SYMBOL}	POPUP SPRAY
??_IRRG_RW	PHANTOM	RIGHT-OF-WAY
??_IRRG_SP*	{SYMBOL}	SHRUB SPRAY
??_IRRG_SV	DOUBLE HIDDEN LINE	SLEEVE
??_IRRG_TX	{TEXT}	TEXT
??_IRRG_VV	{SYMBOL}	VALVE

*- By size or type of facilities

(16) Power Features

POWER FEATURES		
??_PWR_BX*	{SYMBOL}	STREET LIGHT BOX
??_PWR_LS*	CONTINUOUS	LATERAL SERVICE LINE
??_PWR_MH*	{SYMBOL}	MANHOLE
??_PWR_M*	PHANTOM	MAIN LINE
??_PWR_MS	CONTINUOUS	MISCELLANEOUS
??_PWR_PE	CONTINUOUS	PEDESTAL
??_PWR_POL	CONTINUOUS	POLE
??_PWR_TF	CONTINUOUS	TRANSFORMER

??_PWR_TL*	CONTINUOUS	TRANSMISSION LINE
??_PWR_TT	CONTINUOUS	TRANSMISSION TOWER
??_PWR_TX	{TEXT}	TEXT
??_PWR_VU*	{SYMBOL}	VAULT

*- By size or type of facilities

(17) Sanitary Sewer Features

SANITARY SEWER FEATURES		
??_SS_CO	CONTINUOUS	CLEAN OUT
??_SS_FM	CONTINUOUS	FORCE MAIN
??_SS_LF	CONTINUOUS	LIFT STATION
??_SS_LS*	HIDDEN	LATERAL SERVICE LINE
??_SS_MH*	{SYMBOL}	MANHOLE
??_SS_M*	HIDDEN	MAIN LINE
??_SS_MS	CONTINUOUS	MISCELLANEOUS
??_SS_TX	{TEXT}	TEXT

*- By size or type of facilities

(18) Signalization Features

SIGNALIZATION FEATURES		
??_SGNL_DC	{SYMBOL}	DETECTORS
??_SGNL_M*	CONTINUOUS	MAIN LINE
??_SGNL_MS	CONTINUOUS	MISCELLANEOUS
??_SGNL_POL	CONTINUOUS	POLE
??_SGNL_SI	CONTINUOUS	TRAFFIC SIGNS
??_SGNL_TX	{TEXT}	TEXT
??_SGNL_VL	CONTINUOUS	EMERGENCY VEHICLE INDICATOR LIGHTS

*- By size or type of facilities

(19) Storm Drainage Features

STORM DRAINAGE FEATURES		
??_SD_CB	{SYMBOL}	CATCH BASIN
??_SD_CO	{SYMBOL}	CLEAN OUT
??_SD_CU	{SYMBOL}	CULVERT
??_SD_LS*	HIDDEN	LATERAL SERVICE LINE
??_SD_MH*	{SYMBOL}	MANHOLE
??_SD_M*	HIDDEN	MAIN LINE
??_SD_MS	CONTINUOUS	MISCELLANEOUS
??_SD_RA	{SYMBOL}	RIP RAP
??_SD_SLP	CONTINUOUS	SLOPE EMBANKMENT
??_SD_ST	{TEXT}	STATIONING
??_SD_TE	{SYMBOL}	TEST HOLE

??_SD_TX	{TEXT}	TEXT

*- By size or type of facilities

(20) Street Features

STREET FEATURES		
??_STRT_BC	CONTINUOUS	BACK OF CURB
??_STRT_BD	{SYMBOL}	STREET BARRICADE
??_STRT_CL	CENTER	CENTER LINE
??_STRT_CR	CONTINUOUS	CURB LINE
??_STRT_DW	{SYMBOL}	DRIVEWAY
??_STRT_FC	CONTINUOUS	FACE OF CURB
??_STRT_GD	{SYMBOL}	GUARD RAIL
??_STRT_GR	CONTINUOUS	GRAVEL
??_STRT_GU	CONTINUOUS	GUTTER
??_STRT_HR	CONTINUOUS	HANDICAP RAMP
??_STRT_LRW	PHANTOM	LIMITED ACCESS RIGHT-OF-WAY
??_STRT_LT	{SYMBOL}	ELECTROLIER LIGHTS
??_STRT_MS	CONTINUOS	MISCELLANEOUS
??_STRT_NS	{SYMBOL}	STREET NAME SIGN
??_STRT_PV	CONTINUOUS	PAVEMENT
??_STRT_RE	CONTINUOUS	RETAINING WALL
??_STRT_RW	PHANTOM	RIGHT-OF-WAY
??_STRT_SH	HIDDEN	SHOULDER
??_STRT_SN	CONTINUOUS	SOUND WALL
??_STRT_SW	CONTINUOUS	SIDEWALK
??_STRT_TC	CONTINUOUS	TOP OF CURB
??_STRT_TF	{SYMBOL}	ELECTRICAL TRANSFORMER
??_STRT_TN	HIDDEN	TRENCH
??_STRT_TX	{TEXT}	TEXT

(21) Structure Features

STRUCTURE FEATURES		
??_STRC_BU	CONTINUOUS	BUILDING
??_STRC_CP	CONTINUOUS	CONCRETE PADS
??_STRC_DE	CONTINUOUS	DECK
??_STRC_FN	CONTINUOUS	FOUNDATION
??_STRC_MS	CONTINUOUS	MISCELLANEOUS
??_STRC_PO	CONTINUOUS	POOL
??_STRC_PP	CONTINUOUS	PAVED PADS
??_STRC_RA	CONTINUOUS	RETAINING WALL
??_STRC_TA	CONTINUOUS	TANKS
??_STRC_TH	CONTINUOUS	HOUSE TRAILER
??_STRC_TX	{TEXT}	TEXT
??_STRC_WE	CONTINUOUS	WELL

(22) Surface Features

SURFACE FEATURES		
??_SURF_BR	CONTINUOUS	BRUSH
??_SURF_CK	CONTINUOUS	CREEK
??_SURF_DH	PHANTOM	DITCH
??_SURF_DR	{SYMBOL}	AREA/SURFACE DRAIN
??_SURF_EM	CONTINUOUS	EMBANKMENT
??_SURF_FE*	CONTINUOUS	FENCE
??_SURF_HE	{SYMBOL}	HEDGE
??_SURF_IS	CONTINUOUS	ISLAND
??_SURF_LA	PHANTOM	LAKE/POND
??_SURF_MR	{HATCH PATTERN}	MARSH
??_SURF_MS	CONTINUOUS	MISCELLANEOUS
??_SURF_OR	{HATCH PATTERN}	ORCHARD
??_SURF_PA	PHANTOM	PARK
??_SURF_RO	CONTINUOUS	ROCK
??_SURF_RR	CONTINUOUS	RAILROAD
??_SURF_SE	PHANTOM	STREAM
??_SURF_SI	{SYMBOL}	SIGNAGE
??_SURF_SR	CONTINUOUS	SHRUBS
??_SURF_TI	CONTINUOUS	TRAIL
??_SURF_TR	CONTINUOUS	TREE
??_SURF_TX	{TEXT}	TEXT

*- By size or type of facilities

(23) Survey Features

SURVEY FEATURES		
??_SRVY_AB	DIAGONAL LINES	ABUTTERS, RIGHTS RELINQUISHED
??_SRVY_BM	{SYMBOL}	BENCH MARK
??_SRVY_BN	CONTINUOUS	BOUNDARY
??_SRVY_CL	CENTER	CNETER LINE OF STREET, ETC.
??_SRVY_CT	CONTINUOUS	CITY LIMIT LINE
??_SRVY_GL	DASHDOT	GRADING LINE
??_SRVY_HW	CONTINUOUS	HIGH WATER LINE
??_SRVY_LL	CONTINUOUS	LOT LINE
??_SRVY_MO*	{SYMBOL}	MONUMENT
??_SRVY_MS	CONTINUOUS	MISCELLANEOUS
??_SRVY_PL	PHANTOM	PROPERTY LINE
??_SRVY_RS	{SYMBOL}	RAILROAD SPIKE
??_SRVY_RW	CONTINUOUS	RIGHT-OF-WAY LINE

*- By size or type of facilities

(24) Telephone Features

TELEPHONE FEATURES		
??_TEL_BX	{SYMBOL}	TELEPHONE BOX
??_TEL_LS*	CONTINUOUS	LATERAL SERVICE LINE
??_TEL_MH*	{SYMBOL}	MANHOLE
??_TEL_M*	CONTINUOUS	MAIN LINE
??_TEL_MS	CONTINUOUS	MISCELLANEOUS
??_TEL_PE	CONTINUOUS	PEDESTAL
??_TEL_POL	{SYMBOL}	POLE
??_TEL_TT	{SYMBOL}	TRANSMISSION TOWER
??_TEL_TX	{TEXT}	TEXT
??_TEL_VU	{SYMBOL}	VAULT

*- By size or type of facilities

(25) Television Features

TELEVISION FEATURES		
??_TV_PE	CONTINUOUS	PEDESTAL
??_TV_PO	{SYMBOL}	POLE
??_TV_MH*	{SYMBOL}	MANHOLE
??_TV_M*	DASHDOT	MAIN LINE
??_TV_LS*	DASHDOT	LATERAL SERVICE LINE
??_TV_TT	CONTINUOUS	TRANSMISSION TOWER
??_TV_VU	CONTINUOUS	VAULT
??_TV_MS	CONTINUOUS	MISCELLANEOUS
??_TV_TX	{TEXT}	TEXT

*- By size or type of facilities

(26) Water Features

WATER FEATURES		
??_H20_AV	{SYMBOL}	AIR RELIEF VALVE
??_H20_BO	{SYMBOL}	BLOWOFF
??_H20_CAP	{SYMBOL}	CAP
??_H20_FH	{SYMBOL}	FIRE HYDRANT
??_H20_LS*	CONTINUOUS	LATERAL SERVICE LINE
??_H20_M*	CONTINUOUS	MAIN LINE
??_H20_MS	CONTINUOUS	MISCELLANEOUS
??_H20_MT*	{SYMBOL}	METER
??_H20_NP	CONTINUOUS	NON-POTALBE WATER LINE
??_H20_TX	{TEXT}	TEXT
??_H20_VV*	{SYMBOL}	VALVE

*- By size or type of facilities

Appendix C

CITY OF SAN RAMON

Public Works Department
Engineering Division
2401 Crow Canyon Road
San Ramon, CA 94583
Phone: 925-973-2670
Fax: 925-838-3937
Engineering@sanramon.ca.gov

Permit Number: _____

Site Development Permit

Date:_____ **Project Name:**_____

Assessor's Parcel Number:_____ **Street Address (x-street):**_____

This permit allows the applicant to grade land and construct site and street improvements on the property described above. All work shall be done in accordance with the City of San Ramon Municipal Code, Standard Plans and Specifications. All construction drawings shall be prepared under the direction of and signed by a registered Civil Engineer. Landscape plans shall be signed by a Landscape Architect and approved by the City.

EXHIBIT "A" YES ☐ **NO** ☐

	Name	**Address**	**Phone**
Owner			
Engineer			
Soils Engineer			
Landscape Architect			
Contractor			

Date of Preconstruction Conference _____

Date of Start _____ Est. Date of Completion _____

Approval	Construction Description	Estimated Cost	Permit Fee %	*Permit Fee Amount	Amount of Bond
	Grading & Drainage				
	Parking Lot				
	Street Improvements				
	Landscaping				
	Off-Site Improvements				
	Total				

*Permit Fee includes plan checking, inspection and processing.

Comments:_____

Applicant _____
Name Address Phone

Applicant's Signature_____ Date_____

Permit Approved_____
City Engineer (or authorized representative)

Date Construction Completed_____ Date Bond Released_____

Appendix D

CITY OF SAN RAMON

PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

2401 Crow Canyon Road
San Ramon, CA 94583
Inspection: 925-973-2692
Phone: 925-973-2670
Fax: 925-838-3937
Engineering@sanramon.ca.gov

PERMIT NUMBER

VALID FROM ____ TO ____

Encroachment Permit

APPLICANT NAME: ○ Homeowner ○ Contractor ○ Agent		PHONE	FAX
ADDRESS:			
STATE CONTRACTOR'S LIC. NO.	CITY BUSINESS LIC. NO.	SITE CONTACT PERSON	PHONE
LOCATION(S) OF WORK		START DATE	COMPLETION DATE
DESCRIPTION OF WORK (PLEASE ATTACH SKETCH OR DRAWING WHEN APPLICABLE):			

$
TOTAL ESTIMATED COST OF WORK

I HEREBY CERTIFY THAT ALL INFORMATION PROVIDED IN THIS APPLICATION IS TRUE AND COMPLETE AND I AGREE TO COMPLY WITH THE CONDITIONS LISTED BELOW AND ON THE FOLLOWING PAGES.

APPLICANT SIGNATURE DATE

*** INSPECTOR MUST BE NOTIFIED AT LEAST 1- WORKING DAY PRIOR TO STARTING ANY WORK AND WHEN WORK IS COMPLETED BY CALLING THE CITY OF SAN RAMON ENCROACHMENT INSPECTION LINE AT (925)973-2692 ***

*** WORK SHALL BE COMPLETED WITHIN THREE MONTHS OF APPROVAL UNLESS OTHERWISE NOTED.APPLICANT MUST APPLY FOR A PERMIT EXTENSION PRIOR TO THE EXPIRATION DATE. PERMIT SHALL BE KEPT ON SITE AND PRESENTED UPON DEMAND.***

*** THE ENCROACHMENT PERMIT IS ISSUED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION C6-4, CHAPTER 1 OF THE CITY OF SAN RAMON MUNICIPAL CODE. THE CITY RESERVES THE RIGHTS TO SUSPEND OR CANCEL THIS PERMIT, WITHOUT ADVANCE NOTICE, IF THE PERMITTEE FAILS TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT. IN THE EVENT OF SUCH SUSPENSION OR CANCELLATION, THE PERMITTEE SHALL BE HELD LIABLE FOR ALL COSTS INCURRED BY THE CITY IN SECURING AND RESTORING RIGHT-OF-WAY.***

SAN RAMON CITY USE ONLY
(DO NOT WRITE BELOW)

PRIOR TO COMMENCEMENT OF WORK, A PRECONSTRUCTION CONFERENCE OR SITE VISIT(S) IS REQUIRED ☐ YES ☐ NO

TRAFFIC CONTROL PLAN IS REQUIRED ☐ YES ☐ NO | TRAFFIC CONTROL PLAN SUBMITTED ☐ YES ☐ NO | TRAFFIC CONTROL PLAN APPROVED ☐ YES ☐ NO

SPECIAL CONDITIONS:

FEES	PERMIT APPROVAL
SURETY BOND AMOUNT	
CASH BOND AMOUNT	AUTHORIZED SIGNATURE DATE
DATE PAID	COMPLETION SIGNOFF
RECEIPT NUMBER	AUTHORIZED SIGNATURE DATE

INSPECTION RECORD

DATE	COMMENTS	INSPECTOR	HOURS CHARGED

THE FOLLOWING CONDITIONS MUST BE COMPLIED WITH OR REVOCATION OF THIS PERMIT MAY OCCUR.

1. Permit required: Division of Occupational Safety & Health Administration (OSHA) section 17922.5 (excavations over 5', building, demolition, structure, falsework or scaffolding over 3 stories, diesel engines in mines or tunnels).
2. **Inspector must be notified at least 1 working day prior to starting any work and when work is completed by calling the City of San Ramon Encroachment Inspection Line at (925) 973-2692.**
3. All excavation requires prior notification of such activity. Applicant shall contact USA at **811** or **(800) 227-2600** to verify underground utility locations. Failure to do so will result in revocation of this permit.
4. All work shall be in accordance with City of San Ramon Standard Details and Caltrans Standard Specifications unless otherwise noted SPECIAL CONDITIONS on page 1. (Standard Details are available for purchase at the Engineering Services Department, 3180 Crow Canyon Place, Suite 140, San Ramon, CA 94583; Engineering@sanramon.ca.gov).
5. All work within public roadways requires a minimum of signs, cones, and flaggers in conformance with the most recent Caltrans standards to conduct traffic safety around construction zones. NOTE: Driveway access to fronting and adjacent properties shall be provided at all times.
6. Additional conditions requiring an attachment shall be identified as "Exhibit A" and noted under SPECIAL CONDITIONS on page 1.
7. The granting of this permit does not relieve the applicant of the responsibilities of obtaining any other permit required by public or private agencies. (i.e. County, Army Corp., Department of Fish and Game, Caltrans, EBRPD, RWQCB, etc.)
8. See below for more standard requirements.

I. **GENERAL REQUIREMENTS**

A. **JOB SITE CONDITIONS -** Permittee/Contractor agrees that (s)he shall assume sole and complete responsibility for the job site and conditions during the course of construction of this project, including safety of all person and property. Permittee/Contractor further agrees that this requirement shall apply continuously, 24 hours per day, and shall not be limited to normal working hours of 7:30 a.m. to 4:30 p.m. Permittee/Contractor shall hold harmless, indemnify, and defend the City of San Ramon, its officers, agents and employees from any and all liability, claims, demands or damages arising or alleged to arise from the performance of the work permitted herein. This condition shall also apply to the claims filed after the expiration of the permit.

B. **PROTECTION -** Permittee/Contractor shall provide and maintain enough barricades, lights, signs, flaggers, and other safety measures to protect the public in conformance with the most recent State of California Manual of Traffic Control for Construction and Maintenance Work Zone.

C. **TRAFFIC -** A City maintained road may not be closed to public traffic without the approval of the City Council. While working, keep one 10-foot wide lane open to traffic at all times. At all other times, two 12-foot wide lanes shall be open.

D. **ACCESS -** Permittee/Contractor shall maintain existing driveway and pedestrian ingress/egress access for properties adjacent to the work at all times.

E. **EROSION AND SEDIMENT CONTROL -** Permittee/Contractor shall comply with the requirements and best management practices as required by the State of California Regional Water Quality Control Board and the City's Stormwater (NPDES) permit. This includes protection of all catch basins within the vicinity of construction; maintenance of existing flow line and curb drainage.

F. **UTILITIES AND IMPROVEMENTS -** Permittee/Contractor shall protect, in place, all existing utilities, and improvements unless specified otherwise in this Permit. The permittee/contractor shall be responsible for the replacement, repair, and restoration, at his/her sole expense, utilities, and/or improvements. This includes but is not limited to landscaping (including irrigation system components), fences, utilities, structures, conduits or improvements damaged or destroyed by the performance of the work permitted herein. Utility protection/relocation is the responsibility of the permittee. This would include but not be limited to the adjustment (lowering, raising and moving laterally) of the utility vaults and valve boxes as a result of any road reconstruction or other City Capital Improvement Projects.

G. **PUBLIC RIGHTS-OF-WAY-** Permittee/Contractor shall keep all rights-of-way and off site areas clean from all dirt, mud, dust, debris and material stockpiles at all times. Any off-site damage to City streets, found by the City to be the result of this permitted work, shall be repaired by the permittee/contractor, at his/her sole expense, and to the satisfaction of the City of San Ramon.

H. **MONUMENT PRESERVATION -** Permittee/Contractor shall not disturb any existing survey monuments within the City right-of-way. Monuments that are disturbed/removed shall be restored/replaced in accordance with provisions under Section 8771 of the State of California Business and Professional Code at no cost to the City.

I. **CLOSING THE PERMIT -** The Permittee shall notify the City at least 1 working day, prior to completion of the authorized work under this permit by calling **(925) 973-2692**. Following such notification, the City will perform an inspection of the encroachment site to assure acceptability of the work and to verify restoration of the right-of-way. The City will continue to hold the Permittee responsible for maintenance of the encroachment, and will retain any security deposits, pending the signoff of the Permit by the City staff.

II. **STANDARD REQUIREMENTS - DRIVEWAYS** (STD Detail C-3 for Residential & STD Detail C-4 for Commercial)

A. The driveway shall not enter a roadway within five feet of existing or planned curb returns; shall not interfere with a legal encroachment or create a hazard or nuisance and shall be spaced to make maximum street parking available.

B. The driveway is to be sloped to prevent sheet flow from crossing the road and shall not interfere with drainage, cause erosion, or deposition of silt. The driveway shall be constructed from the edge of pavement to the property line.

C. Minimum paved driveway construction shall consist of 2-1/2 inches of asphalt concrete pavement on six inches of Class II Aggregate Base within the road right-of-way. The entire portion of concrete driveways within the right-of-way shall consist of a minimum of six inches of Class A concrete over six inches of Class II Aggregate Base.
D. Minimum concrete driveway construction shall consist of six inches of Class A concrete on six inches of Class II Aggregate Base.
E. The top elevation of the driveway five feet behind the curb is to be 0.60 feet higher than the flow line of the gutter or as approved by the City Engineer.
F. If an existing driveway depression is not used, it shall be completely removed (curb, gutter, and sidewalk) after making a saw cut at the nearest expansion joint or score mark and replaced with concrete to conform to adjacent improvements to be used at the gutter lip and the pavement restored with asphalt concrete. Replacement sidewalk and gutter shall be doweled (See STD Detail C-1).
G. All broken curb, gutter, and sidewalk shall be completely removed by saw cut at the nearest expansion joint or score mark and replaced to true grade and cross section. The replacement curb, gutter and sidewalk shall be doweled (See STD Detail C-1).

III. **STANDARD REQUIREMENTS - STREET CUTS**

A. **TRENCH EXCAVATION -** Do not start work until pipe and other materials are at the site. (Open up only that length of trench, which can be backfilled the same day.) Shoring shall comply with "Trench Construction Safety Orders" of the California State Industrial Accident Commission. Pavement shall be scored to neat lines and removal shall not cause damage to pavement outside the scored lines. Excess excavated material shall be removed immediately from the site.
B. **CROSS TRENCH -** More than 10-degree angle with the centerline of road or any trench less than 50 feet long in the pavement or within four feet of paved area shall be backfilled with Class II Aggregate Base and the structural section replacement in the paved area.
C. **LONGITUDINAL TRENCH -** Less than a 10-degree angle with the centerline of road or any trench less than 50 feet long in all paved areas including curbs, sidewalks or other concrete shall be backfilled with Class II Aggregate Base, from the top of pipe bedding to the bottom of the replacement structural section. The remaining trench shall be backfilled with the structural replacement in paved areas. In all other areas, longitudinal trenches may be backfilled from the pipe bedding to the ground surface with suitable material from the excavation or better material. Controlled density backfill may be used.
D. **COMPACTION -** The relative compaction of all trench backfill up to 5.0' below the structural section subgrade shall not be less than 90 percent. The structural section shall be compacted to not less than 95 percent. No jetting allowed. Testing and results shall be required prior to paving.
E. **TEMPORARY PAVING -** Temporary paving (or permanent paving) shall be placed at the end of each workday. Temporary pavement shall be Class A asphalt concrete with 1-1/2" minimum thickness and shall be replaced within four weeks with permanent pavement.
F. **BASE AND PAVEMENT REPLACEMENT -** The roadway structural section shall be placed as stated in the permit. Otherwise, replacement shall be in kind except that the minimum replacement shall be the existing thickness of asphalt concrete or the minimum thickness per City STD Detail M-3.
G. **TRAFFIC CONTROL DEVICES -** Unless otherwise specified, all traffic control devices and delineations removed by the permittee/contractor as part of the Permit shall be replaced in kind or better, at no cost to the City.

IV. **STANDARD REQUIREMENTS - SIDEWALK DRAINS**

A. Install a three-inch inside diameter smooth wall, Schedule 40 PVC pipe through the curb and sidewalk (See STD Detail SD-14). For retrofit, saw cut and remove one panel of sidewalk, curb, and gutter. Pipe flow line shall match gutter flow line and pipe shall be cut off flush with face of curb. Sidewalk concrete shall encase pipe in three-inch concrete jacket. Replace curb, gutter, sidewalk and pavement to match adjacent improvements (STD Detail C-1).
B. Core boring to the curb is allowed at discretion of inspector. Any damage by core boring must be repaired by saw cut and removed as stated above (A) per STD Detail SD-14.

V. **STANDARD REQUIREMENTS - DUMPSTERS**

A. Dumpsters placed on the street shall have a reflective device, placed in front and back that can be seen by oncoming traffic. Dumpsters shall not protrude into traveled way or bike lane.

VI. **STANDARD REQUIREMENTS - SWIMMING POOLS**

A. Equipment shall not be left on street.
B. Any blockage of driveway egress and materials stockpiles shall be removed at the end of workday.
C. Inspection of egress areas shall be conducted before work begins and after work is completed. Damage to these areas shall be restored at the sole expense of the permittee/contractor.
D. Undersidewalk Crossdrain per Section IV requirements to be installed if necessary.
E. If subdrains or toe drains are encountered during excavation for the project, the applicant shall stop work, call Engineering Services @ **(925) 973-2670**, repair the subdrain, and/or modify the design of the wall so as not to interfere with the drain.
F. Contractor shall call **(925) 973-2692** for a final of the engineering permit prior to the sign off from the Building Department.

Page 3 of 3

Appendix E

CITY OF SAN RAMON

2401 Crow Canyon Road
San Ramon, CA 94583
Phone: 925-973-2670
Fax: 925-838-3937
Engineering@sanramon.ca.gov

TRANSPORTATION PERMIT

IN COMPLIANCE WITH YOUR REQUEST AND SUBJECT TO ALL TERMS, CONDITIONS AND RESTRICTIONS WRITTEN BELOW AND THE ATTACHMENTS, PERMISSION IS HEREBY GRANTED TO:

FOR CITY STAFF USE ONLY	
PERMIT VALID: FROM: TO:	PERMIT NUMBER
MOVING AUTHORIZED: SATURDAY: SUNDAY: DARKNESS (cvc 280):	THIS PERMIT NOT VALID WITHOUT THE FOLLOWING ATTACHMENTS: ☐ Permit Conditions ☐ Holiday Restrictions ☐ _____ ☐ _____ ☐ _____ ☐ _____

NAME

ADDRESS

CITY / STATE / ZIP

OFFICE PHONE NUMBER (Include Area Code) | FAX NUMBER (Include Area Code)

(SHOW DESCRIPTION OF THE LOAD OR EQUIPMENT AND MODEL NO. - INCLUDE DIMENSIONS OF LOAD)
Authorization is granted for the following: ☐ Haul ☐ Drive ☐ Tow

DESCRIPTION OF HAULING EQUIPMENT:

				VEHICLE WIDTH:		KINGPIN TO LAST AXLE:		COMB VEHICLE LENGTH:	
AXLE NUMBER:	1	2	3	4	5	6	7	8	9
NUMBER OF TIRES PER AXLE									
DISTANCE BETWEEN AXLES									
WIDTH OF AXLES AT TIRE SIDEWALL									
MAXIMUM ALLOWABLE WEIGHT									

LOADED DIMENSIONS GREATER THAN THOSE SHOWN BELOW OR WEIGHTS EXCEEDING THOSE SHOWN ABOVE ARE NOT AUTHORIZED

LOADED HEIGHT:	LOADED WIDTH:	LOADED OVERALL LENGTH:	LOADED OVERHANG:	WEIGHT CLASS:

ORIGIN: | DESTINATION:

AUTHORIZED HIGHWAYS STATE OR COUNTY PERMITS ARE REQUIRED WHEREVER THE * IS SHOWN IN THE ROUTE.

PILOT CAR ☐ Yes ☐ No

I hereby certify that all information provided in this application is true and complete and I agree to comply with the conditions listed above hereof.

APPLICANT SIGNATURE: _____ DATE: _____

CASH, CHARGE, CREDIT CARD, EXEMPT INFORMATION	CREDIT CARD EXP. DATE:	FEE:	NUMBER OF TRIPS:

AUTHORIZED CITY AGENT: _____ DATE: _____

REQUESTED ROUTE: (Include Address of Origin and Delivery Site)

CONTACT PERSON: (Print)

Page 1 of 2

TRANSPORTATION PERMIT NOTES

1. This permit is valid only within the City of San Ramon.
2. Applicant is responsible for obtaining all necessary permits that are required in addition to this permit.
3. The granting of this permit does not relieve the applicant of the responsibility of obtaining any other permit required by any other public agency, i.e. Caltrans, CHP, Contra Costa County, Town of Danville, City of Dublin, etc.
4. This permit is only valid for the dates on the permit. The permit will be deemed void if not used within the specified time period.
5. The permittee shall keep this permit with the vehicle, or combination of vehicles, to which the permit refers and shall be open to inspection by any peace officer, traffic officer, or other authorized agent of the City at all times.
6. Permits are issued only to the person or motor carrier shown on permits and may not be assigned to another person, motor carrier or location by the permittee. If any permittee assigns or modifies his permit to a different motor carrier, person or location, the permit shall become void.
7. If a permit is modified in any way by a permittee, the permit will be deemed void. No changes may be made in the path, dimension, character or duration of the encroachment or use granted by the permit unless written approval is obtained in advance from the City Engineer or a designee. Any approved revisions will be reflected on a revised permit and provided to the permittee by the City.
8. The permittee shall hold the City of San Ramon and its officers and employees harmless from, and will indemnify them against, all claims, liability and loss, and in particular from and against all such claims, liability and loss predicated on active or passive negligence of the City of San Ramon resulting directly or indirectly from operations under a valid transportation permit. This hold harmless obligation shall not terminate during the life of the permit. The permittee shall not interfere with any existing traffic control devices within the City of San Ramon without the written consent of the City Engineer. Any such approvals shall be reflected on the permit issued.
9. The expense of repairs for damages to public property caused by the permittee shall be charged to the permittee. If any claim of such liability is made against the City of San Ramon, its officers or employees, permittee shall defend, indemnify and hold them harmless, individually and severally, from such claim.
10. Acceptable proof of financial responsibility, pursuant to Vehicle Code §34360 or a Certificate of Self-Insurance pursuant to Vehicle Code §34361(c) shall be carried by the permittee with the vehicle at all times. The insurance types and amounts shall be in accordance with the Motor Carrier Financial Responsibility section of the California Code of Regulations Title 13 §220.06.
11. A Transportation Permit may be revoked at any time by the City Engineer, if:
    a. It appears to the City Engineer that the continuing allowance of the encroachment, whether because of changed conditions or otherwise, interferes with the full, adequate or safe public use of the right-of-way involved: and/or
    b. The permittee fails to comply with, or violates, any City Ordinance, traffic laws, safety regulations or any condition of this permit as shown thereon.
12. Any and all costs incurred by the City for the enforcement of this permit shall be at the expense of the permittee.
13. The hours shall be as specified on the permit.
14. Travel on the frontage, or within 500 feet of any school while school is in session is prohibited between 7:00 and 8:30 a.m. and between 2:00 and 3:30 p.m.
15. Travel on Bollinger Canyon Road, Crow Canyon Road and San Ramon Valley Boulevard is prohibited between 7:00 and 9:00 a.m. and between 3:00 and 5:00 p.m.

Appendix F

CITY OF SAN RAMON
DRAINAGE PERMIT

Division C6 Public Works & Flood Control
Chapter V Drainage, Article 4 Permits

Drainage Permit No.	
Date	
Issued by	

☐ Regular ☐ Conditional ☐ Emergency

APPLICANT INFO			PROPERTY OWNER INFO		
Name			Name		
Address			Address		
City	State	Zip	City	State	Zip
Phone (Day)		(Eve)	Phone (Day)		(Eve)

CONTRACTOR INFO			PROPERTY INFO	
Name			Tract No.	Subdivision
Contact			Lot No.	APN
Address			Address	
City	State	Zip	Description of Location	
Phone (Day)		(Eve)		
State License No.				
City of San Ramon Business License No.				

PURPOSE & DESCRIPTION OF WORK *Describe the project in detail*

Do you need a permit, written consent, and/or waiver of liability from any persons and/or bodies politic having jurisdiction or any interest in the property where work is to be performed? ☐ YES ☐ NO

If YES, please attach any and all permit(s), written consent(s) and/or waiver of liability(ies).

EXHIBITS & ATTACHMENTS *Describe any Plans, Maps, Plats, Sketch, and/or Diagrams attached*

CONSTRUCTION DATES

Estimated Start	Estimated Completion

SPECIAL CONDITIONS

Drainage Permit 2003.xls PAGE 1 of 3 INITIAL _____

Drainage Permit No.	
Date	
Issued by	

STANDARD CONDITIONS & GENERAL REQUIREMENTS

1. ENGINEERING STAFF MUST BE NOTIFIED OF APPLICANT'S INTENT TO START WORK AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO STARTING ANY WORK. CALL ENGINEERING SERVICES AT 925-973-2670.

2. All excavation requires PRIOR NOTIFICATION of such activity. Applicant shall contact USA at (800)227-2600 to verify underground utility locations. FAILURE TO DO SO WILL RESULT IN REVOCATION OF THIS PERMIT.

3. All work shall be in accordance with City of San Ramon Standard Details and Caltrans Standard Specifications unless otherwise noted under SPECIAL CONDITIONS above. (Standard details are available for purchase at the Engineering Services Department, 3180 Crow Canyon Place, Suite 140, San Ramon, CA.)

4. All work within public roadways requires a minimum of signs, cones, and flaggers in conformance with the most recent Caltrans standards to conduct traffic safety around construction zones.

5. Additional conditions requiring an attachment shall be identified as Exhibit A and noted under Special Conditions.

6. JOB SITE CONDITIONS - Permittee / Contractor agrees that (s)he shall assume sole and complete responsibility for the job site and conditions during the course of construction of this project, including safety of all person and property. Permittee / Contractor further agrees that this requirement shall apply continuously, 24 hours per day, and shall not be limited to normal working hours. Permittee / Contractor shall hold harmless, indemnify, and defend the City of San Ramon from any and all liability claims or damages arising or alleged to arise from the performance of the work permitted herein; this condition shall apply to claims filed after the expiration of the permit.

7. PROTECTION - Permittee/Contractor shall provide and maintain enough barricades, lights, signs, flaggers and other safety measures to protect the public in conformance with the most recent State of California Manual of Traffic Control For Construction and Maintenance Work Zone.

8. TRAFFIC - A City maintained road may not be closed to public traffic without the approval of the City Council. While working, keep one 10-foot wide lane open to traffic at all times.

9. ACCESS - Permittee / Contractor shall maintain existing driveway and pedestrian ingress / egress access for properties adjacent to the work at all times.

10. UTILITIES -Utility protection / relocation is the responsibility of the permittee.

11. EROSION AND SEDIMENT CONTROL - Permittee / Contractor shall comply with the requirements and best management practices as required by the State of California Regional Water Quality Control Board and the City's NPDES permit.

12. UTILITIES AND IMPROVEMENTS - Permittee / contractor shall protect, in place, all existing utilities and improvements unless specified otherwise in this permit. The permittee / contractor shall be responsible for the replacement, repair, and restoration, at his/her sole expense, utilities and/or improvements. This includes but is not limited to landscaping (including irrigation system components), fences, utilities, structures, conduits or improvements damaged or destroyed by the performance of the work permitted herein.

13. PUBLIC RIGHTS-OF-WAY - Permittee / contractor shall keep all public rights-of-way and off site areas clean from all dirt, mud, dust, debris and material stockpiles at all times. Any off-site damage to City property, found by the City to be the result of this permitted work, shall be repaired by the permittee / contractor, at his/her sole expense, and to the satisfaction of the City.

14. CLOSING THE PERMIT - The Permittee shall notify the City in writing upon completion of the authorized work under this permit. Following such notification, the City will perform an inspection of the project site to assure acceptability of the work. The City will continue to hold the Permittee responsible for maintenance of the improvement, and will retain any security deposits, pending the signoff of the Permit by City staff.

15. INSURANCE - Satisfactory proof by certificate of insurance is required that the permittee has in force a valid liability policy which includes the City of San Ramon, its officers, employees and agents as additional insureds. Unless such insurance coverage is waived by the enforcing officer, it shall be in the amount the officer deems sufficient to adequately protect the City from liability for damages to person(s) or property(s) arising from the activities related to this permit.

Drainage Permit No.	
Date	
Issued by	

NOTES

Permittee and Property Owner shall be responsible for all work done, and hold harmless and defend the City and its officers, employees and agents against any damage claims. The issuance of this permit shall in no manner whatsoever imply or impute a responsibility or liability to the City, or its officers, employees or agents, for injuries resulting from any act or condition granted by this permit.

This Drainage permit is issued in accordance with the provisions of Division C6-4, Chapter V of the City of San Ramon Municipal Code. The City reserves the right to suspend or cancel this permit, without advance notice, if the permittee fails to comply with the terms and conditions of this Permit. In the event of such suspension or cancellation, the permittee shall be held liable for all costs incurred by the City in repairing, restoring, or completing the site improvements.

This Drainage permit is subject to the conditions and requirements specified in Section C6-164 of the City of San Ramon Municipal Code. A copy of this code is available at City Hall, and online at http://www.ci.san-ramon.ca.us.

FEES

Drainange Permit Fee	$	_____
Surety Bond Amount	$	_____
Cash Bond Amount	$	_____

The permitee shall begin the act or work authorized by this permit within thirty (30) calendar days from date of issuance, unless another date is specifically indicated in the permit. The permitee shall notify the enforcing officer at least forty-eight (48) hours before beginning work. Should the act or work not be commenced on or before the date indicated in the permit, then the permit shall become void unless, prior to the date of expiration, the permittee presents good and sufficient reason for the extension of time and the date is extended by the enforcing officer in writing.

OWNER ACKNOWLEDGEMENT	CITY OF SAN RAMON ACKNOWLEDGEMENT
I hereby acknowledge that I have read this application and state that the above statements are true and correct, and I agree to comply with the terms of this Permit and all applicable Federal, State, Local and City Ordinances, laws, and regulations.	Permission is herby granted to the above named Applicant to perform the work as described above upon the terms and conditions as described above, including all attachments & exhibits, all pursuant to the City Municipal Code.
_____ NAME (Print)	_____ NAME (Print)
_____ SIGNATURE DATE	_____ SIGNATURE DATE

PROJECT COMPLETION SIGN-OFF

_____
NAME (Print)

_____
SIGNATURE DATE

Permit Revised 04/24/03 - RDW

Drainage Permit 2003.xls PAGE 3 of 3 INITIAL _____

Appendix G

CERTIFICATE OF COMPLIANCE APPLICATION

This Certificate of Compliance Application is being made for reason of a:

{ } Lot Line Adjustment
{ } Lot Merger
{ } Lot Line Verification
{ } _____

_____
Property Owner

_____
Property Address/Location

_____
Mailing Address

_____
Assessor's Parcel Number (s)

_____
City/State/Zip

_____
Project Identification (if applicable)

_____
Telephone Number

_____
Fax Number

_____
Applicant's Signature

_____
Date

This application MUST be accompanied by the following documents:

1. Title Report (or other document verifying ownership of the involved parcel(s);
2. Legal Description of the Parcel (s) proposed by this Application (identify as Exhibit "A")
3. Plat Map (identify as Exhibit "B") and supporting Closure Calculations; and
4. Support documentation (Abutting Record Maps, Easements, Reference Maps, etc.)
5. Certificate of Compliance processing fee of $250 per lot.

Any action resulting from this Application must comply with all requirements of the State Subdivision Map Act and the City of San Ramon Subdivision and Zoning ordinances. All public in-site and off-site improvements, required by the City, must have either been constructed or accepted, or guaranteed by agreement.

If approved, a Certificate of Compliance will be prepared and executed by the City. Unless specified otherwise, the Applicant shall take full responsibility for recordation of said Certificate with the County Recorder's Office.

If denied, the Applicant may appeal to the Planning Commission. The fee for this appeal is $100.00. Otherwise, parcel map procedures must be followed.

Page 1 of 5

PLANNING DEPARTMENT

Zoning Designation _____ Consistent with Zoning? [ ] Yes [ ] No
General Plan Designation _____ Consistent with Gen. Plan? [ ] Yes [ ] No
Environmental Assessment

[ ] Class V Exemption
[ ] Other _____

Comments: _____

Approved by: _____

ENGINEERING DEPARTMENT

Frontage Improvements

Existing Improvements Acceptable? [ ] Yes [ ] No

If "No," Reason _____

[ ] No Improvements
Frontage Improvements Required? [ ] Yes [ ] No

Dedications

Street Right-of-Way Satisfied? [ ] Yes [ ] No

If "No," Instrument _____

Utility Easement Required?

Other Requirements

_____

_____

_____

Approved/Denied By: _____ Date _____

FEE DUE

Certificate of Compliance _____

Appeal of Denial _____

Other (see attached) _____

TOTAL FEES DUE ==========

Page 2 of 5

PLAT MAP REQUIRMENTS

Content of the Plat Map and processing information required are as follows:

1) Must be legible and drawn on an 8 –1/2" x 11" sheet and labeled Exhibit "B".
2) Exterior boundaries of existing lot(s) by record or survey data by Registered Civil Engineer or Land Surveyor, using an acceptable engineering scale.
3) Small vicinity map.
4) Proposed lot line(s) and existing lot line(s).
5) Proposed lot area.
6) Location of all structures, easements, rights-of-way, public streets and driveways.
7) Title Report.
8) Name of owner(s), street address(es) and assessor's parcel number(s).
9) Any additional data or information as required.

Any approval by the City Engineer, a Certificate of Compliance will be prepared and the applicant shall cause the certificate to be recorded with the Contra Costa County Recorder with instructions to send recorded copy to the City Engineer.

Page 3 of 5

SAMPLE

EXHIBIT "A" LEGAL DESCRIPTION

ADDRESS (S) _____

ASSESSOR'S PARCEL NUMBER (S) _____

PREPARED BY _____ DATE _____

Page 4 of 5

SAMPLE

EXHIBIT "B" PLAT MAP

ADDRESS (S) _____

ASSESSOR'S PARCEL NUMBER (S) _____

PREPARED BY _____ DATE _____

Page 5 of 5

Appendix H

DRAFT SCOPE FOR TRAFFIC IMPACT ANALYSIS

Date: _____ Application No.: _____
Project Name: _____ Developer: _____
Project Description: _____ Traffic Consultant: _____

Traffic Impact Analysis for the above listed project shall encompass the following scope, in accordance with the City of San Ramon's Traffic Study Guidelines:

General Information and Assumptions

1. Limits of the Study Area: _____
_____
_____
_____

2. Assumed Year of Project Completion: _____

3. Project Phasing (units/phase and years): _____

4. Scenarios to be studied (check if applicable):

- ❑ Existing Conditions (Year:_____)
- ❑ Short-Term Conditions: existing + approved/pending projects
- ❑ Short-Term Plus Project: existing + approved/pending projects + project
- ❑ Cumulative 2030 Conditions
- ❑ Cumulative 2030 Plus Project

5. Approved and Pending Projects List: _____
_____

6. Programmed Transportation Improvements: _____
_____

7. Assumptions for trip generation, reductions, distribution, and any model land use changes must be submitted for pre-approval prior to the draft traffic study.

Data Requirements

8. Data Collection and Periods (check if applicable):

- ❑ Weekday AM peak hour turning movements
- ❑ Weekday midday peak hour turning movements
- ❑ Weekday PM peak hour turning movements
- ❑ Saturday mid-day peak hour turning movements
- ❑ Sunday mid-day peak hour turning movements
- ❑ Daily total traffic
- ❑ Radar speed survey- location: _____
- ❑ License plate survey – location: _____
_____

- ❑ Pedestrian counts – location: _____
  _____
- ❑ Determine actual grade(s) – location: _____
- ❑ Other data collection: _____
  _____
  _____

Intersections and Roadway Segments

9. Study Roadway Segments:

1	_____	11	_____
2	_____	12	_____
3	_____	13	_____
4	_____	14	_____
5	_____	15	_____
6	_____	16	_____
7	_____	17	_____
8	_____	18	_____
9	_____	19	_____
10	_____	20	_____

Required Analysis Elements

10. Traffic Analysis (check if applicable):

- ❑ Intersection level of service (LOS)
- ❑ Queue analysis
- ❑ Signal warrants
- ❑ Roadway segment analysis
- ❑ Coordinated corridor analysis
- ❑ Average and 85th percentile speeds
- ❑ Collision history and collision rate analysis
- ❑ Pedestrian and bicycle facilities
- ❑ Transit Services
- ❑ Project access analysis
- ❑ On-site parking and circulation
- ❑ On-Street Parking
- ❑ Drive-thru queuing analysis
- ❑ Traffic calming recommendations
- ❑ Freeway LOS
- ❑ Weaving section LOS
- ❑ Ramp merge and diverge LOS
- ❑ Project and mitigation phasing analysis
- ❑ Fair share calculation
- ❑ Cost estimates for mitigation
- ❑ Financing plan for improvements
- ❑ Other analysis:

SIGNED: _____ Date: _____
Applicant or Consultant

SIGNED: _____ Date: _____
City of San Ramon Representative

Appendix I

CITY OF SAN RAMON

COMPLETE STREETS GUIDELINES

Public Works Department

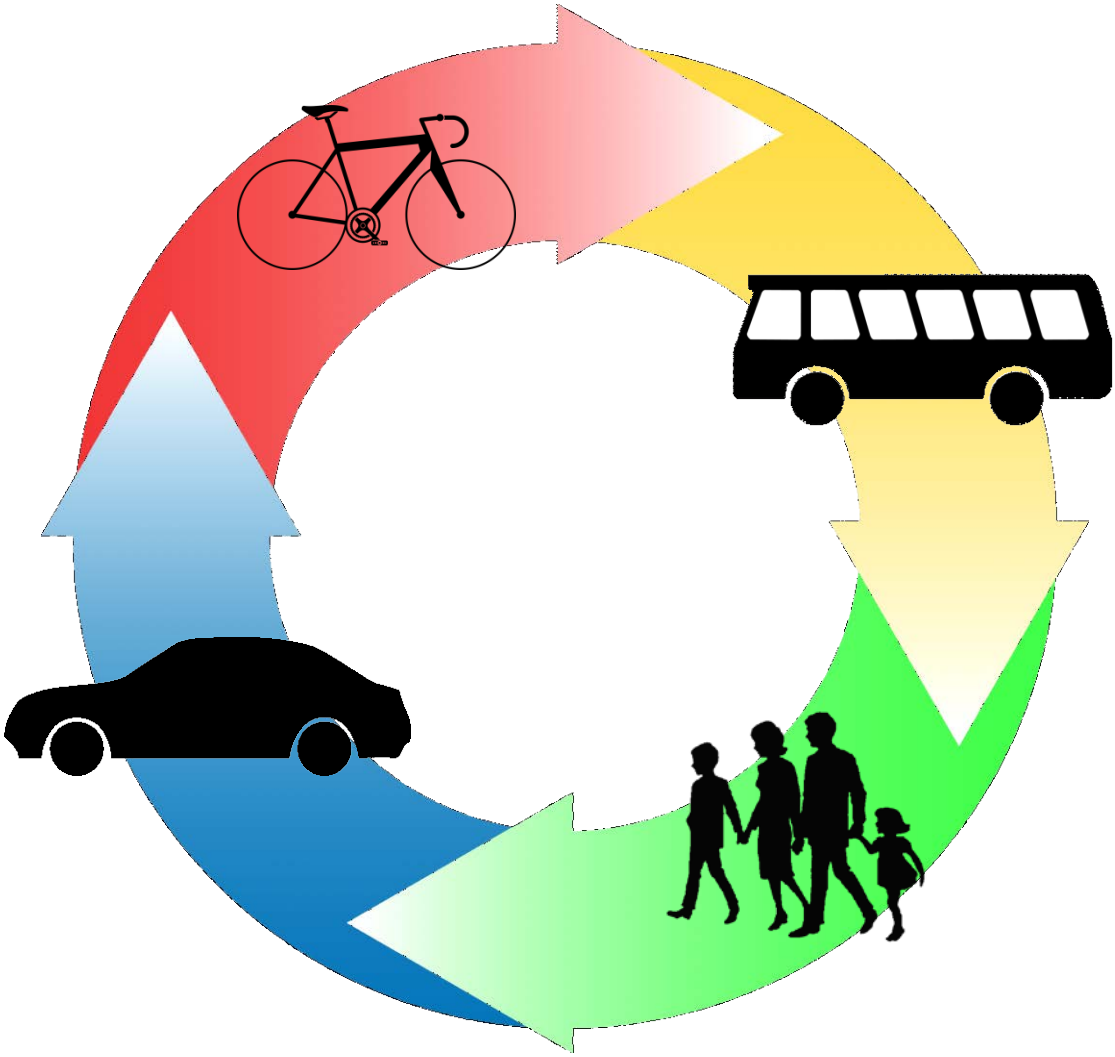
Engineering Division

Updated July 24, 2017

INTRODUCTION & PURPOSE

This document is intended to serve as a guideline in designing Complete Streets projects in San Ramon. It is critical that design elements of Complete Streets in San Ramon take into consideration all types of travelers, including pedestrians, bicyclists, persons with disabilities, motorists, public transit users and operators, and all age groups and abilities (i.e. seniors, adults, children, and youth).

The first priority in designing Complete Streets is to ensure that the design is compliant with City standards and accepted engineering practices. It is also important to realize that the design must also be consistent with local and regional planning and zoning documents, and any applicable studies. Furthermore, where there is no standard provided by the City, it is recommended the designer review and consider other jurisdictions adopted Complete Streets documents and designs as a resource and examples for design.



BACKGROUND

State Law recognizes that circulation and land use are closely related and requires that policies in this Traffic and Circulation Element and the Land Use Element of *the General Plan 2035* be tied together. Careful integration of the City's traffic and circulation policies with its land use policies will ensure that there is sufficient roadway capacity to accommodate existing traffic and traffic anticipated by future development. The City is committed to designing a system of regional routes, local roads, public transit, and bicycle and pedestrian pathways that will enhance the community and minimize impacts to the environment.

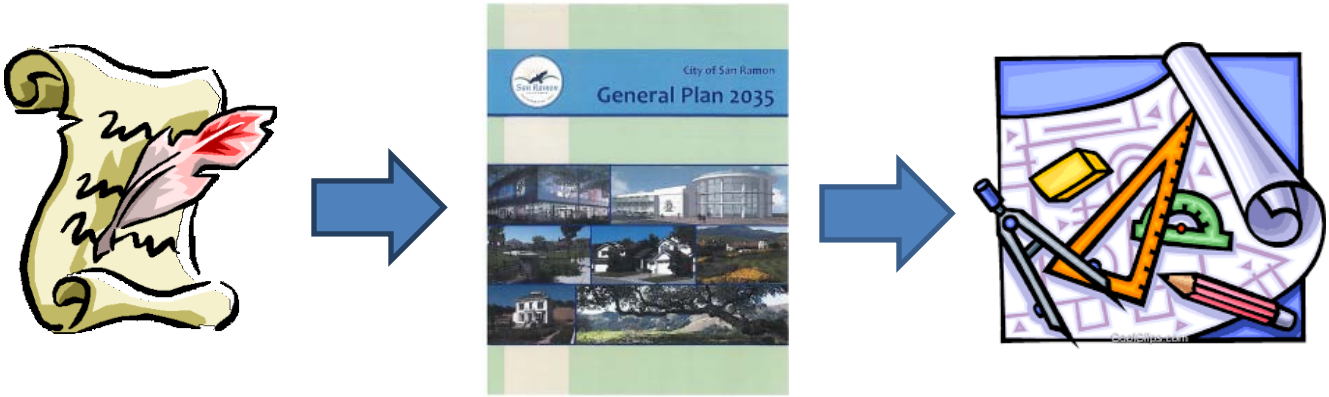
On September 30, 2008, Governor Arnold Schwarzenegger signed Assembly Bill 1358 (AB 1358), the California Complete Streets Act. The Act states:

> "In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle-miles-traveled and to shift from short trips in the automobile to biking, walking and use of public transit".

In response to AB 1358, the Traffic and Circulation Element must contain provisions and plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable and based on local conditions.

"Complete Streets" design concepts are not new to the City of San Ramon, as the City has been designing and constructing its transportation network with all users in mind. To be in compliance with AB 1358, the City has incorporated Complete Streets concepts into every component of the Traffic and Circulation Element.

This *Complete Streets Guidelines* is intended to serve as a guide to meet the requirements of the Traffic and Circulation Element, and shall be incorporated into the City's current General Plan Workplan be reference as it is included in the Engineering *Design, Grading and Procedures Manual* as Appendix I.



GENERAL PLAN – TRAFFIC AND CIRCULATION ELEMENT

5.3 COMPLETE STREETS

"Complete Streets" are defined as streets that serve everyone—pedestrians, bicyclists, transit riders, and drivers—and they take into account the needs of people with disabilities, older people, and children. "Complete Streets" design concepts can improve safety though the consideration of all user groups, improve people's health by promoting an active lifestyle and encouraging travelers to walk or ride bicycles instead of driving, and allow for all modes of travel to be used to reach key destinations in a community and region safely and efficiently. By using "Complete Streets" design concepts, the City can construct and continue to improve a network of streets that are accessible to all local transportation modes and all users groups while maintaining roadway capacity and level of service required by the General Plan. Traffic and Circulation 5-9 Implementation of Complete Streets concepts can result in improved mobility for people who cannot or do not drive and can result in less reliance on automobiles. A reduction in automobile use would result in a reduction in local VMT along with a corresponding reduction in transportation-related greenhouse gas emissions created by the burning of fossil fuels.

GUIDING POLICY

5.3-G-1 Encourage transportation facilities that consider the users' safety and allow for all modes of travel based on local conditions and needs of the community.

IMPLEMENTING POLICIES

5.3-I-1 Develop Complete Streets Guidelines that establish local review and assessment criteria and encourage development of a multimodal transportation network to meet community needs. The Complete Streets Guidelines shall include a range of design tools and considerations intended to assist in the design of new transportation improvements and the redesign of the existing transportation network. The Complete Street Guidelines are not intended to be "one size fits all" standards, but rather provide a framework for assessing the multimodal needs of the community in the context of a specific transportation or roadway project. The Complete Streets Guidelines may be a stand-alone guidance document or incorporated into existing streetscape guidelines or roadway development standards.

5.3-I-2 Implement Complete Streets principles, as appropriate, for new roadway design and significant roadway rehabilitation. Complete Streets principles are identified in the Complete Streets Guidelines. Specific application of the Complete Streets principles is to be based on the specific needs and context of the project being considered.

5.3-I-3 Coordinate the implementation of Complete Streets concepts, as appropriate, with ongoing transportation and congestion relief programs such as the TDM Program, Street Smarts Traffic Safety Program, Residential Traffic Calming Program, Safe Routes to School Program and TRAFFIX Program.

5.3-I-4 Encourage Complete Streets concepts as a vehicle-miles-traveled and greenhouse gas reduction strategy.

REQUIRED DESIGN STANDARDS

The documents below contain standards and procedures which the proposed design ***shall follow***:

City of San Ramon

Municipal Code
https://www.municode.com/library/ca/san_ramon

Engineering Design, Grading and Procedures Manual
http://www.sanramon.ca.gov/engr/images/manual.pdf

California Department of Transportation (Caltrans)

Standard Plans
http://www.dot.ca.gov/des/oe/construction-contract-standards.html

Highway Design Manual (HDM)
http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/HDM_Complete_16Dec2016.pdf

California Manual on Uniform Traffic Control Devices
http://www.dot.ca.gov/trafficops/camutcd/docs/2014r2/CAMUTCD2014_rev2.pdf

Federal Highway Administration (FHWA)

Manual on Uniform Traffic Control Devices (MUTCD)
https://mutcd.fhwa.dot.gov/

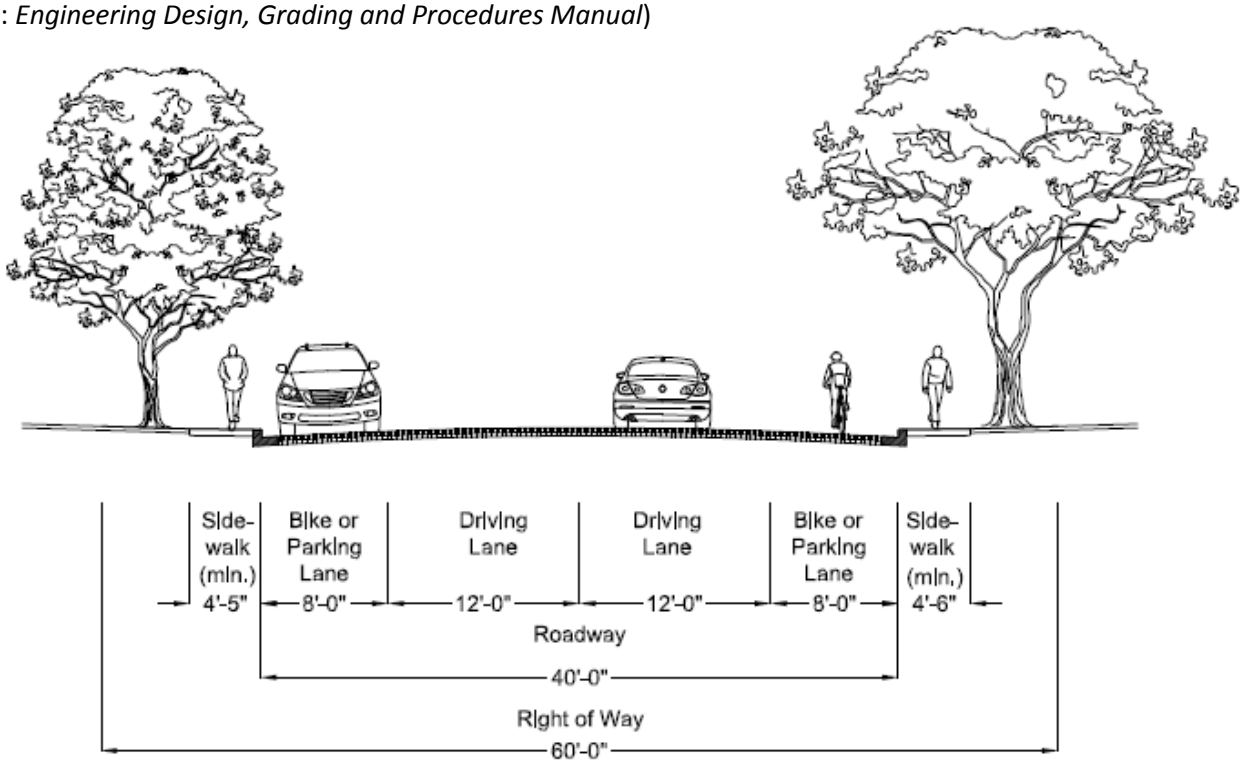
Americans with Disabilities Act (ADA)

ADA Standards for Accessible Design
https://www.ada.gov/2010ADAstandards_index.htm

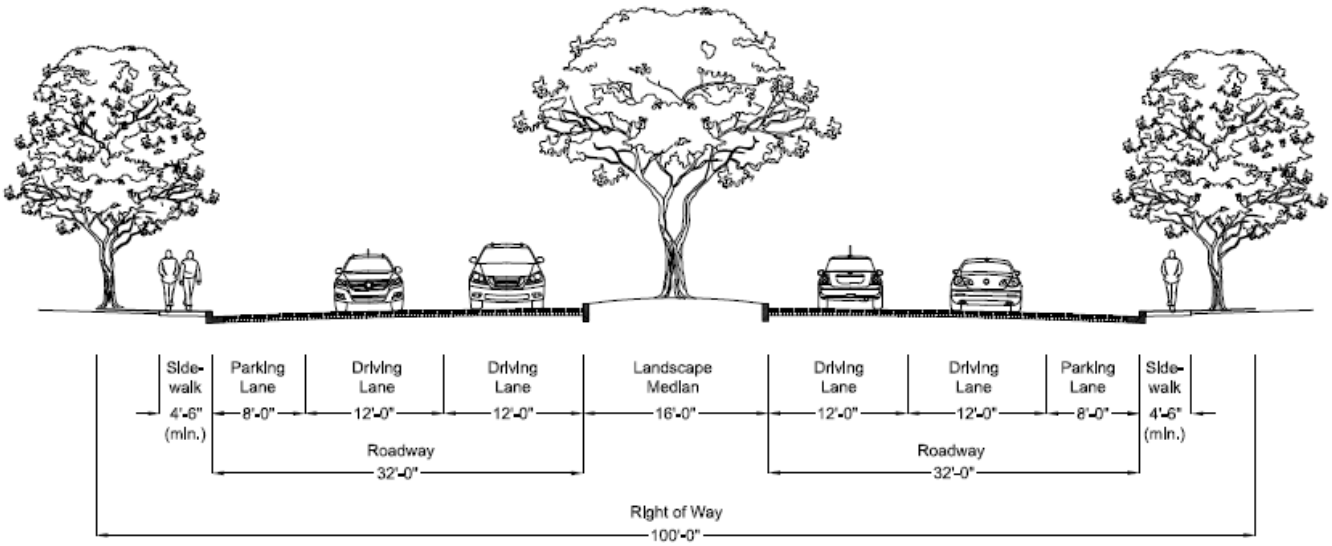
EXAMPLES OF DESIGN STANDARDS

Below is an example of a design standard that ***shall be followed***. Any deviations from design standards require approval from the City Engineer.

Source: *Engineering Design, Grading and Procedures Manual*)



Local Collector Cross Section



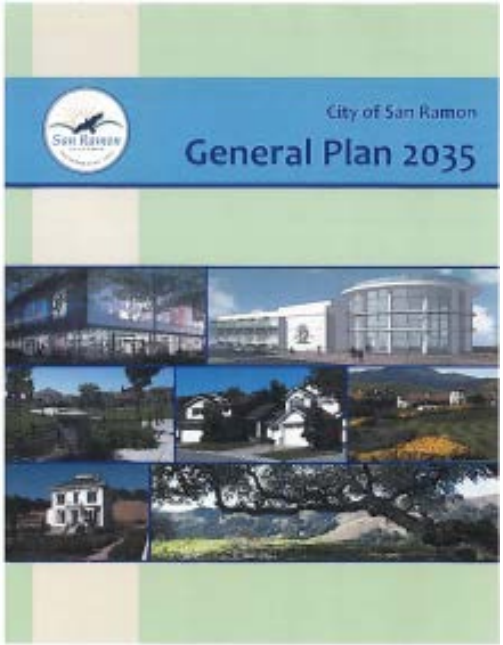
Minor Arterial Cross Section

REQUIRED DESIGN CONSISTENCY

The documents listed below contain plans which the proposed design ***shall be consistent with***:

City of San Ramon

General Plan 2035
http://www.ci.san-ramon.ca.us/gprc/gprcindex.htm



Citywide Bike Master Plan
(in development)

Transportation Programs

- Transportation Demand Management (TDM) Program
- Street Smarts Program
- Residential Traffic Calming (RTC) Program
- Safe Routes to School (SR2S) Program
- TRAFFIX Program

http://www.ci.san-ramon.ca.us/transp/

Contra Costa Transportation Authority

Countywide Transportation Plan (CTP) 2017
http://www.ccta.net/sources/detail/11/1

Growth Management Plan (GMP)
http://www.ccta.net/_resources/detail/8/1

Congestion Management Plan (CMP)
http://www.ccta.net/_resources/detail/63/1

EXAMPLE OF DESIGN CONSISTENCY

Below is an example of a design plan which ***requires consistency with***. Consult with City staff to determine if the proposed project is consistent with these documents.

Source: *General Plan 2035*

Traffic and Circulation

Table 5-2: Bicycle Routes by Classification

Location	*Existing*	*Proposed*
Albion Road (between Watermill Road and Windemere Parkway)	Class II	Class III
Alcosta Boulevard (between Crow Canyon Road and Veracruz Drive)	Class II	
Alcosta Boulevard (between Veracruz Drive and San Ramon Valley Boulevard)	Class III	
Bishop Drive (between Norris Canyon Road and Sunset Drive)	Class II	
Bollinger Canyon Road (between Ascension Drive and Crow Canyon Road)	Class III	
Bollinger Canyon Road (between San Ramon Valley Boulevard and Ascension Drive)	Class II	
Bollinger Canyon Road (between Crow Canyon Road and Deerwood Drive)	Class II	
Bollinger Canyon Road (north of Deerwood Drive)		Class II
Bollinger Canyon Road (between Canyon Lakes Drive and San Ramon Valley Boulevard)	Class III	
Bollinger Canyon Road (east of Canyon Lakes Drive)	Class II	
Broadmoor Drive (between Montevideo Drive and Alcosta Boulevard)	Class III	
Cross Valley Trail (between Tareyton Avenue and Alcosta Boulevard)		Class I
Cross Valley Trail (between Tareyton Avenue and Del Mar Drive)	Class I	
Cross Valley Trail (east of Del Mar Drive)		Class I
Crow Canyon Road (east of Alcosta Boulevard)	Class II	
Davona Drive	Class III	
Deerwood Road (between San Ramon Valley Boulevard and Deerwood Drive)	Class II	
Deerwood Drive		Class III
Dougherty Road (between Crow Canyon Road and Bollinger Canyon Road)	Class II	

5-23

RECOMMENDED DESIGN CONSIDERATIONS

The documents listed below contain design concepts and guiding principles which the proposed design ***should incorporate and apply to the maximum extent practicable***:

American Association of State Highway and Transportation Officials (AASHTO)

A Policy on Geometric Design of Highways and Streets, 6th edition, 2011 (Green Book)
Guide for the Planning, Design, and Operation of Pedestrian Facilities
Guide for Development of Bicycle Facilities
Guide for Achieving Flexibility in Highway Design
http://www.transportation.org/

Federal Highway Administration (FHWA)

Small Town and Rural Design Guide
http://www.ruraldesignguide.com

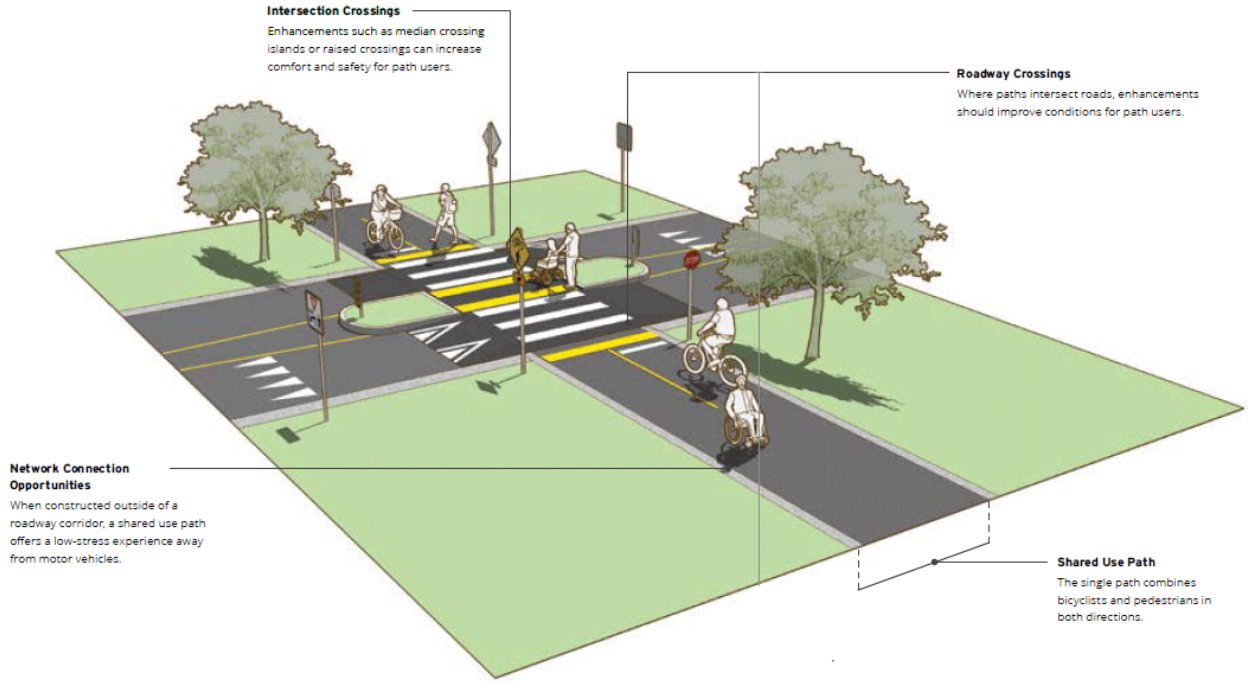
California Department of Transportation (Caltrans)

Complete Streets Elements Toolbox
http://www.dot.ca.gov/transplanning/ocp/docs/Feb10_Draft_CompleteStreetsElementsToolbox.pdf

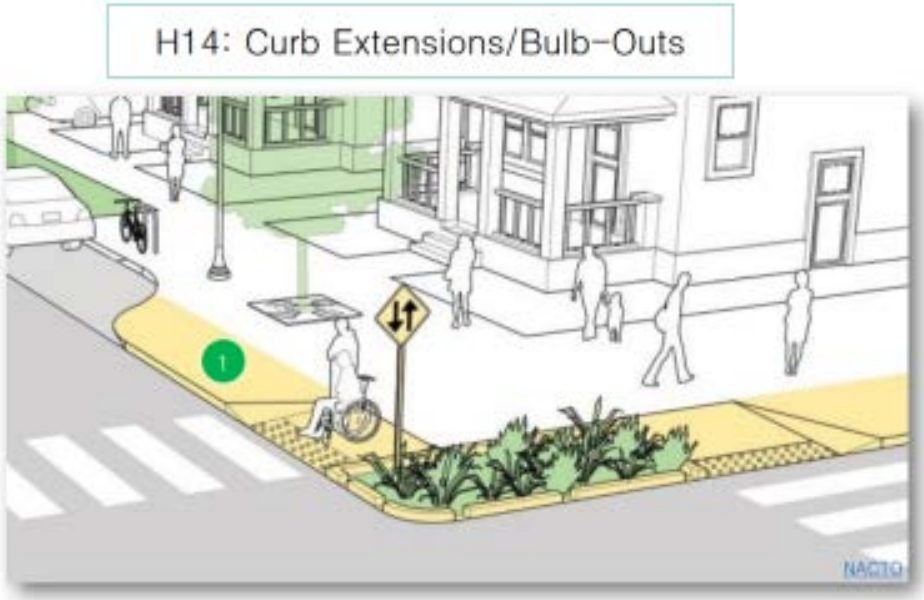
EXAMPLES OF DESIGN CONSIDERATIONS

The examples below are design concepts which ***should be incorporated and appllied to the maximum extent practicable***. Consult with City staff on applicability to the proposed project.

Source: *Small Town and Rural Design Guide*



Source: *Complete Streets Elements Toolbox*



RECOMMENDED RESOURCES AND GUIDANCE

The documents listed below contain additional references and guidance which the proposed design ***should consider and incorporate as applicable***:

American Association of State Highway and Transportation Officials (AASHTO)

A Policy on Geometric Design of Highways and Streets, 6th edition, 2011 (Green Book)
https://www.fhwa.dot.gov/

Smart Growth America

http://www.smartgrowthamerica.org

National Association of City Traffic Officials (NACTO)

Guidebooks

- *Urban Street Design Guide*
- *Global Street Design Guide*
- *Urban Bikeway Design Guide*
- *Transit Street Design Guide*

http://www.nacto.org

California Department of Transportation (Caltrans)

Main Street, California
http://www.dot.ca.gov/hq/LandArch/mainstreet/main_street_3rd_edition.pdf

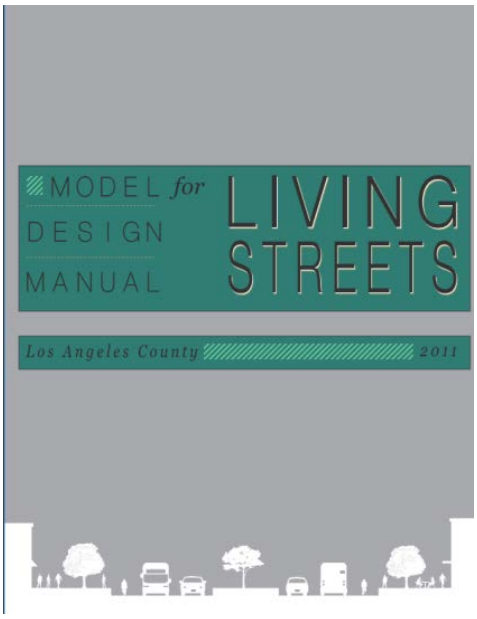
SAMPLE COMPLETE STREET GUIDELINES

The documents listed below contain samples of adopted design guidelines which ***can be used as a reference:***

City of Oakland
Telegraph Avenue Complete Streets
http://www2.oaklandnet.com/government/o/PWA/o/EC/s/TelegraphAvenue/index.htm

City of Carlsbad
Livable Streets
http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=25290

City of San Mateo
Sustainable Streets Final Plan February 2015
http://sustainablestreetssanmateo.com/

City of San Francisco
Better Streets Plan
http://www.sf-planning.org/ftp/BetterStreets/

County of Los Angeles
Model Design Manual for Living Streets
http://www.modelstreetdesignmanual.com/