

City of Rancho Cucamonga – Engineering Department Services

Public Improvement Plan & Subdivision Map Guidelines

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**This packet can be downloaded at: www.CityOfRc.us
(City Hall/Engineering/Land Development) along with other helpful information documentation.**

**CITY OF RANCHO CUCAMONGA - ENGINEERING DIVISION
PLAN CHECK SUBMITTAL APPLICATION**

DATE: _____ PROJECT NO: _____

BUILDING ADDRESS (WHEN APPLICABLE): _____

ENGINEER: _____ DEVELOPER: _____

ADDRESS: _____ ADDRESS: _____

CONTACT: _____ CONTACT: _____

PHONE: _____ PHONE: _____

FAX: _____ FAX: _____

E-MAIL: _____ E-MAIL: _____

RELATED PROJECTS: DRC20 _____ - _____
OR PMT20 _____ - _____

CITY DEPARTMENTS

ENGINEERING	PLANNING	TRAFFIC	LANDSCAPE	MAINTENANCE	TOTAL	INCLUDED	SUBMITTAL ITEMS
2	1	1	1		5		Approval Resolution/Letter containing Conditions of Approval
1	1	1	1		4		Site Plan
2	1	1	1		5		Final Map:
2					2		Preliminary Title Report not over 60 days old **
2					2		Map Traverse Calculations and Closures **
1	1	1	1		4		Tentative Map
1					1		Pertinent reference materials, i.e., deeds, recorded maps, etc. **
2	1	1	1	1*	5		Public Improvement Plans (Street, Storm Drain, Street Lights, Trail, etc.):
1	1	1	1	1*	4		Related Grading Plans
1					1		Related Water and Sewer Plans ***
1					1		Cross Sections (when widening existing streets)
1					1		Reference Street Plans (existing) minimum 300 ft off-site (also Storm Drain if connecting to)
1		1			2		Signing and Striping Plans
1		1			2		Traffic Signal Plans with special provisions
2					2		Hydrology and Hydraulics study(s)
1	1	1	2	1	6		Landscape Maintenance District Plans (LMD) for City Maintained areas
2					2		Legal descriptions for Easement Deeds, Quitclaims, Dedications, etc., with exhibits (see **)
1		1			2		Traffic Study's
3	1				4		CC & Rs (Engineering - Grading - Planning - Attorney)



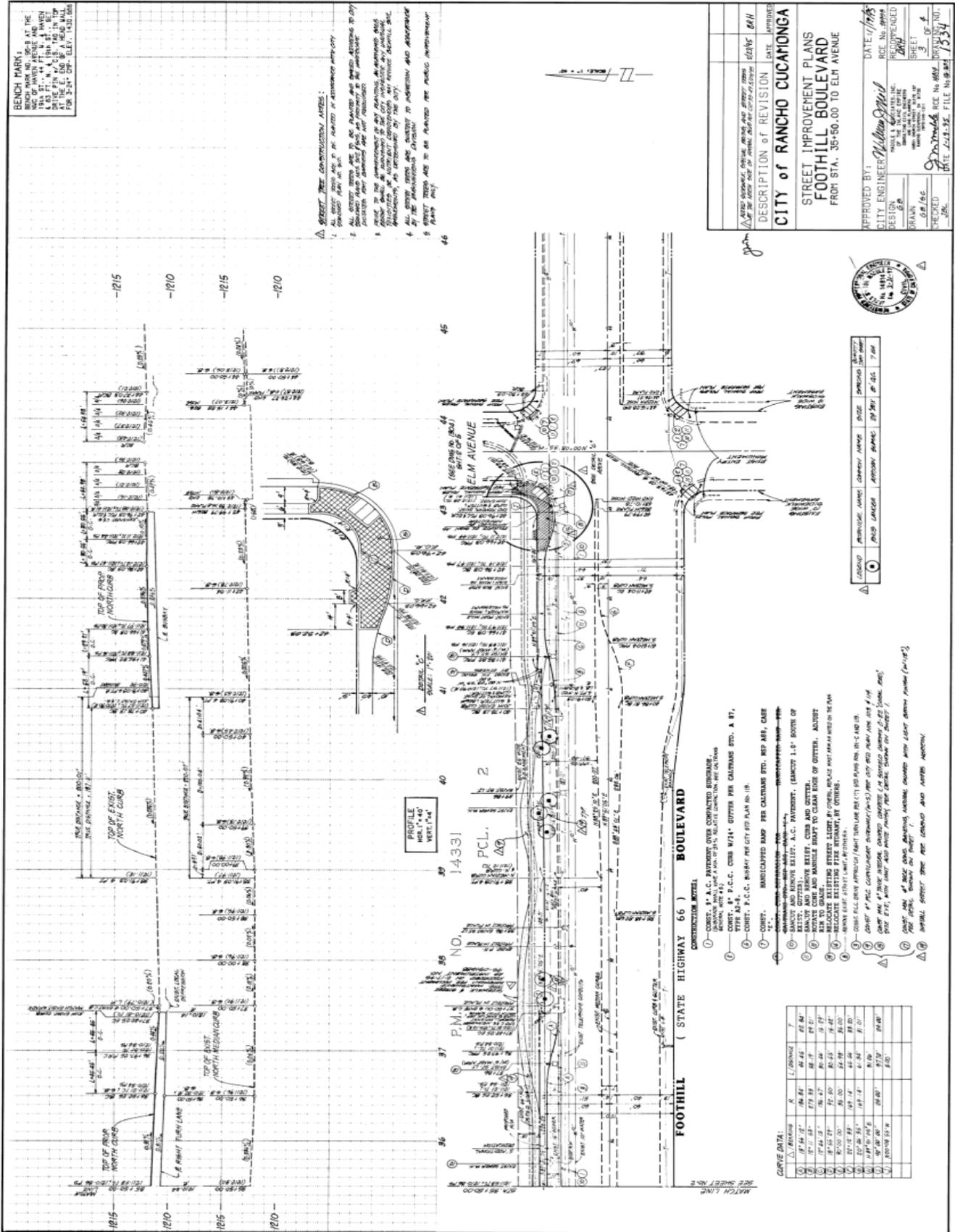
* Only when there are LMD plans for City maintained areas
 ** Also required for legal descriptions
 *** Provide 2 sets if there are public Storm Drain plans

PLAN CHECK SUBMITTAL APPLICATION

Instructions:

1. **SUBMITTAL:** Complete the application by filling in the Project Number (ENG-SUB-DRC), contact information and the number of sets provided in the “INCLUDED” column. Items not relevant to the project submittal may be omitted (i.e. Final Map and related items, if no map is involved). TOTAL column gives number of items to be submitted. When In doubt, include the Item.
 - a. Separate the Items so there is a one roll for each City Department (label Department on the outside). DO NOT distribute to other Departments; this will be done by Engineering.
 - b. The submittal will be reviewed for completeness within one week and you will be notified of outstanding Items and the Fees Due. Partial or incomplete submittals will be rejected, so include all maps, public Improvement plans (including LMD), separate easements, lot line adjustments and required studies, per the Conditions of Approval (Special and Standard Conditions)
 - c. Plan Check Process begins when the fees have been paid.
2. **FIRST PLAN CHECKS:** Typically take about 6 weeks, depending on the project size. The Project Engineer will call when all red lines received from other departments, and the Project Processing Checklist, are available for pick up.
 - a. You can check on the status of a plan check online at www.CityOfRc.us/Accelerate once you register as an Accelerate User and are linked to the record.
3. **RESUBMITTALS: Must include ALL previous Redlines** along with the revised plans, maps and studies as well as property identifying design changes that have been made.
 - a. RESUBMITTALS typically take up to 3 weeks if the previous red lines are not too extensive.
 - b. A Cost Estimate for the proposed public improvements will be requested to be submitted with the Second Plan Check.

4. **COMPLETION:** When plan check is complete, the Project Engineer will prepare an Improvement & Bond Agreements to be executed by the Developer (or other acceptable security in lieu of bond)
 - a. All outstanding Conditions of Approval shall be completed at that time; including the payment of fees / deposits and recordation of easements, lot line adjustments, etc.
 - b. Documents to be executed for annexation into the Street Light and Landscaping Maintenance Districts will also be provided at this time.
5. **APPROVAL:** The Final Map and/or Improvement Agreement will be scheduled for the next available City Council Meeting after it is signed and returned if all the Conditions of Approvals have been satisfied.
 - a. Proof of Insurance is also required at this time
 - b. Map originals shall be turned in during the week of the council meeting, not before.
 - c. After council approval, the map and the improvement agreement will be circulated for signatures (turnaround time is about 1 week)
 - d. Public improvement plans shall be signed by the City Engineer before Engineering's sign-off of Building Permit (PMT case routed by the Building & Safety Division}.
6. **REVISIONS TO SIGNED PLANS:**
 - a. Require a new plan check to be completed relating to only the revisions
 - b. Show revisions in red and submit a minimum of 4 set
 - c. Include the revisions in the submittal package along with or in lieu of the new public improvement plans



BENCH MARK:
 BENCH MARK NO. 508 AT THE
 END OF WHEAT AVENUE AND
 4.03 FT. N. 1/4 1/4 1/4 SET
 1.00 FT. N. 1/4 1/4 1/4 SET
 FOR 3'-24" DIA. ELEV. 143.00

- STREET THE CONSTRUCTION NOTES:**
1. ALL STREET LINES ARE TO BE PLACED IN ACCORDANCE WITH CITY.
 2. ALL STREET LINES ARE TO BE PLACED AND BOUND ACCORDING TO CITY.
 3. ALL STREET LINES ARE TO BE PLACED AND BOUND ACCORDING TO CITY.
 4. ALL STREET LINES ARE TO BE PLACED AND BOUND ACCORDING TO CITY.
 5. ALL STREET LINES ARE TO BE PLACED AND BOUND ACCORDING TO CITY.

CITY OF RANCHO CUCAPONGA

STREET IMPROVEMENT PLANS
FOOTHILL BOULEVARD
 FROM STA. 39+50.00 TO ELM AVENUE

APPROVED BY: *[Signature]* DATE: 1/1/18
 CITY ENGINEER: *[Signature]* RCE No. 1400
 DESIGN: *[Signature]* RECORDED
 DRAWN: *[Signature]* SHEET 3 OF 6
 CHECKED: *[Signature]* DATE: 1/1/18 FILE NO. 17334

CONSTRUCTION NOTES:

1. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
2. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
3. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
4. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
5. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
6. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
7. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
8. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
9. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
10. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
11. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
12. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
13. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
14. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
15. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
16. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
17. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
18. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
19. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.
20. CONDT. 1" A.C. PARALLEL OVER EXISTING UTILITY.

CURVE DATA:

STATION	PC	PT	PI	PT	PC	LENGTH	AREA
36+00	36+00	36+00	36+00	36+00	36+00	0.00	0.00
37+00	37+00	37+00	37+00	37+00	37+00	0.00	0.00
38+00	38+00	38+00	38+00	38+00	38+00	0.00	0.00
39+00	39+00	39+00	39+00	39+00	39+00	0.00	0.00
40+00	40+00	40+00	40+00	40+00	40+00	0.00	0.00
41+00	41+00	41+00	41+00	41+00	41+00	0.00	0.00
42+00	42+00	42+00	42+00	42+00	42+00	0.00	0.00
43+00	43+00	43+00	43+00	43+00	43+00	0.00	0.00
44+00	44+00	44+00	44+00	44+00	44+00	0.00	0.00
45+00	45+00	45+00	45+00	45+00	45+00	0.00	0.00
46+00	46+00	46+00	46+00	46+00	46+00	0.00	0.00

TITLE BLOCK

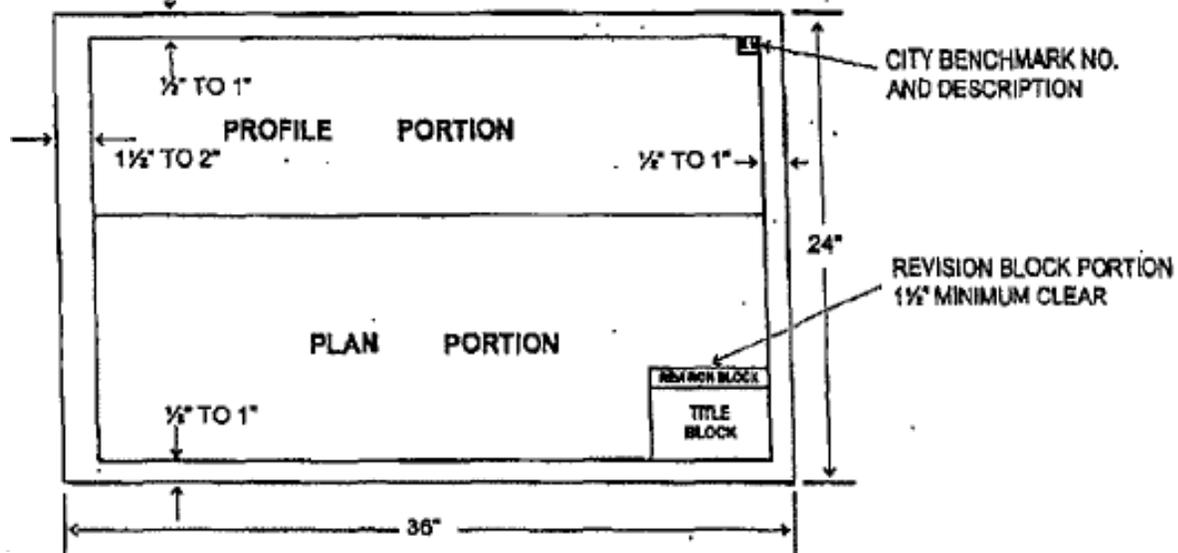
DESCRIPTION OF REVISION	DATE	CITY APPROVED	

REVISION BLOCK

TITLE BLOCK

CITY OF RANCHO CUCAMONGA			1/2"
PLAN AND PROFILE PLANNED STREET FROM ONE AVENUE TO TWO AVENUE (SEE NOTE NO. 1)			1 1/2"
APPROVED BY CITY ENGINEER _____		DATE _____ R.C.E. No. _____	1/2"
DESIGN _____	ENGR. (FIRM) ADDRESS PHONE NO.	RECOMMENDED _____	1 1/2"
DRAWN _____		SHEET _____ OF _____	
CHECKED _____		DRAWING NO. _____	
DATE _____		R.C.E. NO. _____ FILE NO. _____	
1 1/4"	3"	1 1/2"	
6"			

PLAN AND PROFILE SHEET

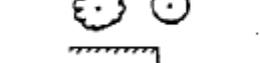
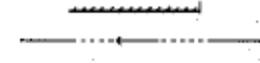
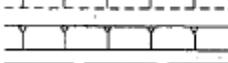
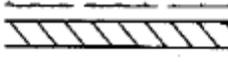
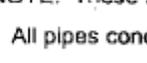


NOTE NO 1: SHOW PROJECT NO., i.e. TRACT, PARCEL MAP, DEVELOPMENT REVIEW, ETC.

SYMBOLS

SYMBOLS	ABBREVIATIONS	DESCRIPTION
	CL	Center Line
	R/W	Right-of-Way
	PL	Property Line
	P.I.	Point of Intersection
	Exist C & G	Existing Curb and Gutter
	C & G	New Curb and Gutter
	Exist S.W.	Existing Sidewalk
	S.W.	New Sidewalk
	D.A.	New Drive Approach
	A.C. Pmnt.	Asphalt Concrete Pavement
	A.C. Overlay	Asphalt Concrete Overlay
	R.C.P.	*Reinforced Concrete Pipe
	A.C.P.	*Asbestos Cement Pipe
	C.M.P.A.	*Corrugated Metal Pipe or Arch
	C.I.P.	*Cast Iron Pipe
	IRR.	*Irrigation
	A.B.S.	*Acrylonitrile Butadiene Styrene
	ST.	*Steel
	P.V.C.	*Poly Vinyl Chloride
	W.	*Water
	S.D.	*Storm Drain
	SIG. COND.	Signal Conduit
	G.	*Gas
	S.	*Sanitary Sewer
	S.P.	*Stand Pipe
	R.	Riser
	W.M.	Water Meter
	G.M.	Gas Meter
	W.V.	Water Valve
	E.	Electrical
	New Pole	(Identify Use and Number)
	Existing Pole	(Identify Use and Number)
	M.H.	Sewer or Storm Drain Manhole
	F.H.	Fire Hydrant
	G.P.	Guy Pole

SYMBOLS (Continued)

SYMBOLS	ABBREVIATIONS	DESCRIPTION
	P.A.	Pole Anchor
	T.	Telephone
		Existing Street Light
		New Street Light
		Existing Signal Standard
		New Signal Standard
	Loop	Existing Detector
	Loop	New Detector
	Contr.	Existing Controller
	P.B.	Existing Pull Box
	P.B.	New Pull Box
		New Sign
		Existing Sign
		Existing Street Name Sign
		New Street Name Sign
		Railroad Tracks
		Fence
		Existing Block Wall
		New Block Wall
		Existing Shrubs
		New Shrub
		Existing Tree
		New Tree
		Building (Show Finished Floor Elevation)
		Flow Line
		Existing Slope (2:1 or Greater)
		New Slope (2:1 or Greater)
	E.P.	Existing Edge of Pavement
	REM'L	Existing Asphalt or Concrete to be Removed

NOTE: These symbols and abbreviations are suggested for use on plans for Street and Storm Drain improvements.

* All pipes conc. Etc., larger than 12" in diameter, draw to scale, 12" or smaller use single line, show size.

PLAN CONTENTS

General:

1. Plans shall be prepared on high quality reproducible material equivalent to OCB Blueprint Co. (3 mil. double mat mylar). Preprinted plan sheets with the City's title block are available from OCB Blueprint.
2. Plan sheets with stick-ons are not acceptable as originals. They shall be photocopied on material equivalent to OCB Blueprint Co. (4 mil. mat mylar). Sepia mylars are not acceptable.
3. The plans shall contain all information necessary to construct the improvements. The minimum information to be provided is as follows by type of plan.

Street - Plan View:

1. Bearings of all streets shown. Radial bearings on centerline of all catch basins, etc., in a curve.
2. Centerline curve data, also short and long side for curbed sections.
3. Show detail of cross gutter if not standard. Cross gutter and aprons to show direction of flow by arrows.
4. Show flow line elevations on all BCR's and ECR's where there are cross gutters. Also, flow line elevation along flow line of cross gutter.
5. Curb return data (delta, tangent, radius and length).
6. If other than 8" curb and gutter is being used, show limits on plan for each type and transition.
7. Responsible Engineer's signature and seal.
8. Show existing improvements and dimensions with dashed lines, along with plan reference.
9. Show existing pipelines, irrigation lines, or structures, power poles, or trees, etc., in right-of-way and include note as to their disposition if encroaching. Show existing underground structures that may conflict with, or enter into, the design of proposed improvements.
10. Show improvements to be constructed with solid lines. Note connections to existing improvements.
11. Show details of all improvements if not city standard. For all standard improvements show standard drawing number. Check standard drawings for those dimensions to show on plans.
12. Show existing and proposed street lights.
13. Proposed street lights shall be on a supplement plan per section "J" of the Public Improvement Plan and Subdivision Guidelines.
14. Lot lines, frontage distances and lot numbers same as record map.
15. North arrow, point to top or right hand side of page.

16. Check general and construction notes against "sample general notes". Show construction notes wherever necessary to clarify construction details.
17. Show limits of new paving, old paving, overlay and removal. Use appropriate shading to delineate areas, also. On match-up paving situations an R-value test is required prior to the plans being approved to determine the paving section.
18. Scale. Show horizontal scale near north arrow.
19. Stationing to conform with established stationing on any previous plans. Stationing to be south to north or west to east.
20. Check stationing and elevations on consecutive sheets. If more than one sheet, show match lines at identical points on consecutive sheets. Give references to other sheets.
21. Stationing of all BCR's and ECR's, B.C. and E.C. of all curves.
22. Stations at beginning and end of improvements and at center of catch basins, etc.
23. Title block to contain parcel map number, CUP number, D.R. Number, S.A. Number, tract number or house number (for building permits), description and limits of construction.
24. Show flow around tract on index map on title sheet, if necessary.
25. Typical sections for all streets. Show right and left sides of section as they would appear looking up station on the street. Identify property lines. Give offsets from level line to quarter crown and T.C. Show range of slopes on existing and match-up paving. If difference in elevation between top of curb and existing ground at property line exceeds one foot, indicate what slopes are to be constructed outside the right-of-way, 1 1/2; 1 cut, 2:1 fill, maximum. Maximum 2:1 slope within street right-of-way. Show existing, proposed and ultimate conditions.
26. If both driving lane and shoulder have variable cross slope, the 1/4 crown elevations will have to be shown on plan. 1/4 crown located per Standard No. 100-A.
27. Show traffic index (T.I.) under cross sections. See Standard No. 100-A.
28. Show existing and proposed street trees. Include notes and quantities.
29. Right-of-way and improvement width (parcel to be improved, adjoining parcels and parcels across the street).

Street - Profiles:

1. Bench mark on each sheet.
2. If curbs are variable height, show T.C. and F.L. elevations, flow line profile with grade.
3. Label and show stations and elevations at the beginning and end of all curb returns, vertical curves, horizontal curves, transition sections, grade breaks and beginning and end of improvement.
4. Indicate length of curb returns and length of horizontal curves. Draw curb returns full length, not twice tangent distance. 1/4 delta points to be shown on all returns with elevations.
5. Show profile going into return and out of return.
6. Show tangent grades at PRVC or PCVC.
7. Show P.I. elevations on vertical curves.
8. Elevations every 50 feet on vertical curves (or fractional part thereof).
9. Show datum elevation at both ends of sheet.
10. Profile of existing centerline with elevations at least every 50 feet.
11. Profile of existing ground at property line.
12. Profile of existing E.P. with elevations at least every 50 feet.
13. Show connection with or future design to existing improvements, along with existing elevations. Show grade on existing improvements.
14. Any existing or proposed underground construction that may conflict or enter into the design of the proposed improvements.
15. Names and stationing of intersecting streets.
16. Label all grade lines and profiles. Also show size of curb face.
17. Scale, both horizontal and vertical.
18. Show stationing at bottom of profile at heavy lines.
19. Show transition between different types of curbs.

Storm Drain - Plan View:

1. Bearings of all streets or lines. Radial bearings on centerline of all catch basins, etc., in a curve.
2. Centerline curve data.
3. Responsible Engineer's signature and seal.
4. Show existing improvements and dimensions with dashed lines, along with plan reference.
5. Show existing pipelines, irrigation lines, or structures, power poles, or trees, etc., in right-of-way and include note as to their disposition if encroaching. Show existing underground structures that may conflict with, or enter into, the design of proposed improvements.
6. Show improvements to be constructed with solid lines. Note connections to existing improvements.
7. Show details of all improvements if not city standard. For all standard improvements show standard drawing number. Check standard drawings for those dimensions to show on plans.
8. North arrow, point to top or right hand side of page.
9. Check general and construction notes against "sample general notes". Show construction notes wherever necessary to clarify construction details.
10. Scale. Show horizontal scale near north arrow.
11. Stationing to conform with established stationing on any previous plans. Stationing to be south to north or west to east.
12. Check stationing and elevations on consecutive sheets. If more than one sheet, show match lines at identical points on consecutive sheets. Give references to other sheets.
13. Stations at beginning and end of improvements and at center of catch basins, etc.
14. Names of streets.
15. Check title block for parcel map number, CUP number, D.R. number, S.A. number, tract number or house number (for building permits), description and limits of construction.

Storm Drain - Profiles:

1. Bench Mark on each sheet.
2. Show datum elevation at both ends of sheet.
3. Profile of finished surface at centerline of storm drain. Existing surface for open channels.
4. Show H.G.L. to nearest 0.1'.
5. Show connection with or future design to existing improvements, along with existing elevations. Show grade on existing improvements.
6. Any existing or proposed underground construction that may conflict or enter into the design of the proposed improvements.
7. Names and stationing of intersecting streets.
8. For pipes, show size, length and "D" strength.
9. Label all grade lines and profiles.
10. Show design Q.
11. Scale, both horizontal and vertical.
12. Show stationing at bottom of profile at heavy lines.
13. Show structures to scale (catch basins, etc.). Note critical flow line elevations.

General Notes

1. All work shall be done in accordance with these plans, the City of Rancho Cucamonga Standards and the Standard Specifications for Public Works Construction - current edition, including its annual supplements of amendments. Contractor shall be familiar with and shall be responsible for adherence to these Standards and Specifications.
2. All pipelines or substructures of any kind, telephone or power poles, water meters, valves, fire hydrants, etc. shown or not shown on these plans within the right-of-way limits or in adjacent areas where improvement work is to be done shall be removed, replaced, relocated or protected in place as required at no cost to the City of Rancho Cucamonga.
3. Any contractor performing work on this project shall familiarize himself with the site and shall be solely responsible for any damage to existing facilities resulting directly or indirectly from his operations, whether or not such facilities are shown on these plans.
4. A permit shall be obtained from the City of Rancho Cucamonga Public Works, Engineering Department prior to any encroachment or construction within any City of Rancho Cucamonga easement or right-of-way.
5. All grade stakes shall be set by the Contractor or Engineer. Paving stakes shall be set at all hinge points, edge of pavement points within 0.01 foot of sub-grade elevation and at not more than 50 foot intervals. Additional paving stakes may be required by City Engineer as needed at warped or vertical curve areas.
6. All sewer, water, electric, gas, phone or other utility laterals, mains, or crossings shall be constructed prior to paving.
7. Compaction tests of embankment construction, trench backfill, compacting original ground and all sub-grades shall be performed at no cost to the City of Rancho Cucamonga. A written report with these compaction tests shall be submitted to the City Engineer for approval prior to the placement of base materials and/or surfacing.
8. At the completion of paving, a materials report shall be submitted to the City Engineer. Listing all tests or determinations completed to verify stability oil content and gradation of asphalt paving.
9. Prior to installation of any paving, a materials report shall be submitted to the City Engineer. Listing all tests or determinations completed to verify: R-Value, sieve analysis and sand equivalent of aggregate base.
10. Paving shall be performed in accordance with R-Value and Pavement tests taken to determine structural sections.
11. When improvements are to be placed on native soil which consists of a rocky material, the sub-grade shall be prepared by removing all rocks which protrude above the sub-grade and all voids or depressions shall be filled with a fine grade material of a quality better than the native material.
12. If the asphalt concrete is to be placed on sub-grade, a soils sterilant registered by the E.P.A. for use under A.C. and P.C.C. shall be uniformly applied at the manufacturer's recommended rate for the full pavement width prior to paving.
13. Estimate of quantities is provided by the Engineer only for the convenience of the developer, the contractor shall make his own determination of construction quantities before submitting a bid. Any item of work required by these plans which is not specifically listed in the estimate of quantities shall be considered as included in the other items of work.
14. Street signs per City of Rancho Cucamonga Standard Number 401 shall be constructed at each intersection.
16. City approval of plans does not relieve the developer from responsibility for the correction of error and omission discovered during construction. Upon request the required plan revisions shall be promptly submitted to the City Engineer for approval.
17. Work site and exterior streets shall be in a neat, clean, hazard free, orderly state, throughout construction. Site shall be cleaned upon request of the inspector.
18. Contact all Utility Companies as required, 48 hours prior to excavation.

Provided for your convenience are the following:

Utility Companies

Electricity & Gas

- A. Electricity Southern California Edison (800) 655-4555
- B. Rancho Cucamonga Municipal Utility (RCMU) (909) 919-2612
- C. Southern California Gas - Residential (800) 427-2200
- D. Southern California Gas – Commercial (800) 427-2000

Water & Sewer

- E. Cucamonga Valley Water District (CVWD) (909) 987-2591
- F. San Gabriel Valley Municipal Water District (818) 969-7911
- G. Metropolitan Water District (MWD) (909) 593-7474

Cable TV

- H. Time Warner / Adelphia Cable (888) 892-2253
- I. Charter Communications (866) 499-8080
- J. Frontier Communications (877) 908-1288
- K. Refuse Burrtec Disposal (909) 987-3717

EXISTING SURVEY MONUMENTATION

I hereby certify that I have identified all survey monuments of record that could be disturbed by this project. All said monuments which currently exist in the field are shown on these plans and are described as follows:

(Example)

1

 1” iron pipe located intersection of centerlines of Vineyard Avenue and Foothill Boulevard

Dated: _____ (Signature)
R.C.E./L.S. Name and License Number



Prior to obtaining a construction permit for the project, a copy of the corner record filed by a qualified R.C.E. or L.S. with the County Surveyor for each monument showing the references to be used to rest that monument after completion of the project shall be provided to the City.

Prior to obtaining a certificate of completion for the project, a copy of the corner record filed by a qualified R.C.E. or L.S. with the County Surveyor for the setting of the existing monuments and the related permanent witness monuments after completion of the project shall be provided to the City.

Notes:

1. The above shall be placed upon the cover sheet of all improvement plans and signed before the plans are approved by the City Engineer.
2. If no monuments exist or will be affected by the project, state “None” after “follows” above and do not included the last two paragraphs.

CITY OF RANCHO CUCAMONG
ENGINEERING DIVISION

STREET TREE REQUIREMENT FORM

DATE: _____ TO: _____

COMMENTS PREPARED BY: _____

PROJECT #: _____

LOCATION: _____

DESIGN NOTES:

1. Street trees on new streets are to be selected from the city’s approved street tree list, based upon available planting area (typically between back-of-curb and the sidewalk). Established streets should already have designated tree species. Contact the Engineering Services Department at (909) 477-2740 for additional information.
2. Street Trees are to be shown on street or other public improvement plans signed by the City Engineer, and constructed per the same.
3. Street trees shown on the Planning Department’s submittals are conceptual only.
4. Interior streets will be required to select “deciduous” trees for East-West streets and “evergreen” trees for North-South streets from the City’s approved street tree list. Wind-Prone areas may be required to utilize a more deciduous palette.
5. Indicated spacing and sizes are requirements for City maintained trees only. Where the tree concept goes beyond areas of influence near public improvements and / or any city maintenance easement, spacing and sizes will be per the on-site plans approved by the Planning Department, on-site and off-site plans shall be coordinated.
6. Street improvement plans shall reflect the legend and notes indicated below. In some cases, when details about parkway sizes or utilities are unavailable at the time of conditioning, options are provided for various situations. It is the designer’s responsibility to ascertain the context of the tree planting, select the appropriate tree option, and omit any erroneous information on the final legend.
7. Street improvement plans shall reflect a line item within the construction legend to state: Street trees shall be installed per the notes and legend on sheet _____(typically Sheet 1)

Street	Botanic Name	Common Name	Size	Spacing	Comments	Qty.

CONSTRUCTION NOTES FOR STREET TREES:

1. All street trees are to be planted in accordance with City Standard Plans
2. Prior to the commencement of any planting, an Agronomic soils report shall be furnished to the City inspector, any unusual toxicities or nutrient deficiencies may require backfill soil amendments, as determined by the City Inspector.
3. All street trees are subject to inspection and acceptance by the Engineering Services Department
4. Street trees are to be planted per public improvement plans only.

**APPROVED STREET TREES FOR RANCHO CUCAMONGA
PAGE 1 OF 3 - OUTSIDE THE HIGH FIRE HAZARD AREA**

Legend:	* Deciduous ● Evergreen	Interior street trees are generally required to be evergreen on north-south streets and deciduous on east-west streets.	Revised January 28, 2010
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2' up to less than 5' Planting Area	5' up to less than 7' Planting Area	7' & above Planting Area Width (PAW)
<i>Cercis canadensis</i> (3' min. PAW) Eastern Redbud - 25' O.C. *	<i>Brachychiton acerifolius</i> (6' min. PAW) Australian Flame Tree - 30' O.C. *	<i>Celtis sinensis</i> (7' min. PAW) Chinese Hackberry - 45' O.C. *
<i>Cercis occidentalis</i> (3' min. PAW) Western Redbud - 20' O.C. *	<i>Brachychiton populneus</i> (6' min. PAW) Bottle Tree - 35' O.C. ●	<i>Cinnamomum camphora</i> (8' min. PAW) Camphor Tree - 55' O.C. ●
<i>Chionanthus retusus</i> (3' min. PAW) Chinese Fringe Tree - 20' O.C. *	<i>Eucalyptus nicholii</i> (5' min. PAW) Nichol's Willow-leaved Peppermint-35' O.C. ●	<i>Lagunaria patersonii</i> (7' min. PAW) Primrose Tree - 40' O.C. ●
<i>Chitalpa tashkentensis</i> (3' min. PAW) Chitalpa - 30' O.C. *	<i>Eucalyptus polyanthemos</i> (5' min. PAW) Silver Dollar Gum - 40' O.C. ●	<i>Magnolia grandiflora</i> (non-varietal) (10' PAW) Southern Magnolia - 50' O.C. ●
<i>Eriobotrya deflexa</i> (3' min. PAW) Bronze Loquat Tree - 25' O.C. ●	<i>Eucalyptus sideroxylon</i> (6' min. PAW) Red Ironbark - 50' O.C. ●	<i>Pinus canariensis</i> (7' min. PAW) Canary Island Pine - 35' O.C. ●
<i>Hymenosporum flavum</i> (3' min. PAW) Sweetshade - 20' O.C. ●	<i>Fraxinus augustifolia oxycarpa</i> (5' min PAW) Raywood Ash - 25' O.C. *	<i>Pinus eldarica</i> (7' min. PAW) Afghan Pine - 25' O.C. ●
<i>Lagerstroemia hybrid 'Biloxi'</i> (2' min. PAW) Pink Crape Myrtle Hybrid - 20' O.C. *	<i>Geijera parviflora</i> (5' min. PAW) Australian Willow - 25' O.C. ●	<i>Platanus acerifolia</i> (7' min. PAW) London Plane Tree - 40' O.C. *
<i>Lagerstroemia hybrid 'Muskogee'</i> 2' min. PA Lavender Crape Myrtle Hybrid - 20' O.C. *	<i>Ginkgo biloba 'Fairmount'</i> (5' min. PAW) Maidenhair Tree - 20' O.C. *	<i>Platanus racemosa</i> (See Notes below) California Sycamore - 50' O.C. *
<i>Lagerstroemia hybrid 'Natchez'</i> (2' min. PAW) White Crape Myrtle Hybrid - 20' O.C. *	<i>Koelreuteria bipinnata</i> (6' min. PAW) Chinese Flame Tree - 40' O.C. *	<i>Podocarpus gracilior</i> (8' min. PAW) Fern Pine - 40' O.C. ●
<i>Lagerstroemia hybrid 'Tuscarora'</i> 2' min. PA Pink-Red Crape Myrtle Hybrid - 20' O.C. *	<i>Koelreuteria paniculata</i> (5' min. PAW) Goldenrain Tree - 35' O.C. *	<i>Quercus agrifolia</i> (See Notes below) Coast Live Oak - 70' O.C. ●
<i>Magnolia grandiflora 'St. Mary'</i> (3' min. PAW) NCN - 20' O.C. ●	<i>Lophostemon confertus</i> (5' min. PAW) Brisbane Box - 25' O.C. ●	<i>Quercus suber</i> (7' min. PAW) Cork Oak - 50' O.C. ●
<i>Podocarpus henkelii</i> (3' min. PAW) Long-Leafed Yellow Wood - 20' O.C. ●	<i>Lyonothamnus floribundus</i> (5' min. PAW) Catalina Ironwood - 20' O.C. ●	<i>Quercus virginiana</i> (See Notes below) Southern Live Oak - 110' O.C. ●
<i>Podocarpus macrophyllus</i> (3' min. PAW) Yew Pine - 25' O.C. ●	<i>Magnolia grandiflora 'D.D. Blanchard'</i> (6') NCN - 35' O.C. ●	<i>Zelkova serrata</i> (7' min. PAW) Sawleaf Zelkova - 50' O.C. *
<i>Prunus blireiana</i> (3' min. PAW) NCN - 20' O.C. *	<i>Magnolia grandiflora 'Majestic Beauty'</i> (5') NCN - 20' O.C. ●	
<i>Pyrus betulaefolia 'Paradise'</i> (3' min. PAW) Dancer Flowering Pear - 20' O.C. *	<i>Magnolia grandiflora 'Samuel Sommer'</i> (6') NCN - 30' O.C. ●	
<i>Tristaniopsis laurina</i> (3' min. PAW) Water Gum - 25' O.C. ●	<i>Melaleuca linariifolia</i> (5' min. PAW) Flaxleaf Paperbark - 30' O.C. ●	
	<i>Pistacia chinensis</i> (5' min. PAW) Chinese Pistache - 50' O.C. *	
	<i>Quercus ilex</i> (6' min. PAW) Holly Oak - 55' O.C. ●	
	<i>Sophora japonica</i> (6' min. PAW) Japanese Pagoda Tree - 60' O.C. *	

Notes: ○ Eucalyptus: species vary in their resistance to the Lerp Psyllid. Do not use unless mandated by a separate instrument. Check all Euc's availabilities in nurseries. ○ Less desirable as street trees because they require a lot of space: *Platanus racemosa*, *Quercus agrifolia*, *Quercus virginiana* & *Magnolia grandiflora* (non-varietal).

**APPROVED STREET TREES FOR RANCHO CUCAMONGA
PAGE 2 OF 3- HIGH FIRE HAZARD AREA TREES & FIRE SPACING**

Legend:	* Deciduous ● Evergreen	Interior street trees are generally required to be evergreen on north-south streets and deciduous on east-west streets.	Revised January 28, 2010
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2' up to less than 5' Planting Area	5' up to less than 7' Planting Area	7' & above Planting Area Width (PAW)
	<i>Brachychiton acerifolius</i> (6' min. PAW) Australian Flame Tree - 50' O.C. *	
<i>Cercis occidentalis</i> (3' min. PAW) Western Redbud - 40' O.C. *	<i>Brachychiton populneus</i> (6' min. PAW) Bottle Tree - 55' O.C. ●	<i>Cinnamomum camphora</i> (8' min. PAW) Camphor Tree - 80' O.C. ●
<i>Chionanthus retusus</i> (3' min. PAW) Chinese Fringe Tree - 40' O.C. *		<i>Lagunaria patersonii</i> (7' min. PAW) Primrose Tree - 60' O.C. ●
<i>Chitalpa tashkentensis</i> (3' min. PAW) Chitalpa - 50' O.C. *		<i>Magnolia grandiflora</i> (non-variatal) (10' PAW) Southern Magnolia - 70' O.C. ●
<i>Eriobotrya deflexa</i> (3' min. PAW) Bronze Loquat Tree - 45' O.C. ●		
<i>Hymenosporum flavum</i> (3' min. PAW) Sweetshade - 40' O.C. ●	<i>Fraxinus augustifolia oxycarpa</i> (5' min PAW) Raywood Ash - 45' O.C. *	
<i>Lagerstroemia hybrid 'Biloxi'</i> (2' min. PAW) Pink Crape Myrtle Hybrid - 35' O.C. *	<i>Geijera parviflora</i> (5' min. PAW) Australian Willow - 45' O.C. ●	<i>Platanus acerifolia</i> (7' min. PAW) London Plane Tree - 60' O.C. *
<i>Lagerstroemia hybrid 'Muskogee'</i> 2' min. PA Lavender Crape Myrtle Hybrid - 35' O.C. *	<i>Ginkgo biloba 'Fairmount'</i> (5' min. PAW) Maidenhair Tree - 40' O.C. *	<i>Platanus racemosa</i> (See Notes below) California Sycamore - 70' O.C. *
<i>Lagerstroemia hybrid 'Natchez'</i> (2' min. PAW) White Crape Myrtle Hybrid - 35' O.C. *	<i>Koelreuteria bipinnata</i> (6' min. PAW) Chinese Flame Tree - 60' O.C. *	<i>Podocarpus gracillior</i> (8' min. PAW) Fern Pine - 60' O.C. ●
<i>Lagerstroemia hybrid 'Tuscarora'</i> 2' min. PA Pink-Red Crape Myrtle Hybrid - 35' O.C. *	<i>Koelreuteria paniculata</i> (5' min. PAW) Goldenrain Tree - 55' O.C. *	<i>Quercus agrifolia</i> (See Notes below) Coast Live Oak - 100' O.C. ●
<i>Magnolia grandiflora 'St. Mary'</i> (3' min. PAW) NCN - 40' O.C. ●	<i>Lophostemon confertus</i> (5' min. PAW) Brisbane Box - 45' O.C. ●	<i>Quercus suber</i> (7' min. PAW) Cork Oak - 70' O.C. ●
	<i>Lyonothamnus floribundus</i> (5' min. PAW) Catalina Ironwood - 35' O.C. ●	<i>Quercus virginiana</i> (See Notes below) Southern Live Oak - 130' O.C. ●
<i>Podocarpus macrophyllus</i> (3' min. PAW) Yew Pine - 40' O.C. ●	<i>Magnolia grandiflora 'D.D. Blanchard'</i> (6') NCN - 55' O.C. ●	<i>Zelkova serrata</i> (7' min. PAW) Sawleaf Zelkova - 70' O.C. *
<i>Prunus blireiana</i> (3' min. PAW) NCN - 40' O.C. *	<i>Magnolia grandiflora 'Majestic Beauty'</i> (5') NCN - 40' O.C. ●	
	<i>Magnolia grandiflora 'Samuel Sommer'</i> (6') NCN - 50' O.C. ●	
	<i>Pistacia chinensis</i> (5' min. PAW) Chinese Pistache - 70' O.C. *	
	<i>Quercus ilex</i> (6' min. PAW) Holly Oak - 75' O.C. ●	

Notes: ○ Tree spacing shown here, for the High Fire Hazard Area, is the sum of the mature crown diameter and 20 ft. of separation. Tree spacing (and related landscape design parameters) on project plans is subject to review by The Rancho Cucamonga Fire Protection District.
○ Less desirable as street trees because they require a lot of space: *Platanus racemosa*, *Quercus agrifolia*, *Quercus virginiana* & *Magnolia grandiflora* (non-variatal).

DISCONTINUED STREET TREES FOR RANCHO CUCAMONGA

Legend:	* Deciduous ● Evergreen	The trees listed below (with strikethroughs) were removed from the Approved List due to disease, high maintenance, etc.	Page 3 (supplement) Revised January 28, 2010
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3' Min. Planting Area Width	5' Min. Planting Area Width	7' Min. Planting Area Width
Lagerstroemia indica 'Catawba' – 24" Box Dark Purple Grape Myrtle – 20' O.C.	Eucalyptus rudis Swamp Gum – 35' O.C.	Eucalyptus camaldulensis Red Gum – 30' O.C.
Pittosporum phillyraeoides Willow Pittosporum – 20' O.C.	Rhus lancea African Sumac – 20' O.C.	Eucalyptus maculata Spotted Eucalyptus – 25' O.C.
Pyrus calleryana 'Aristocrat' NGN – 20' O.C.		Liquidambar styraciflua American Sweet Gum – 25' O.C.
Pyrus kawakami Evergreen Pear – 20' O.C.		Melaleuca quinquenervia Gajeput Tree – 25' O.C.

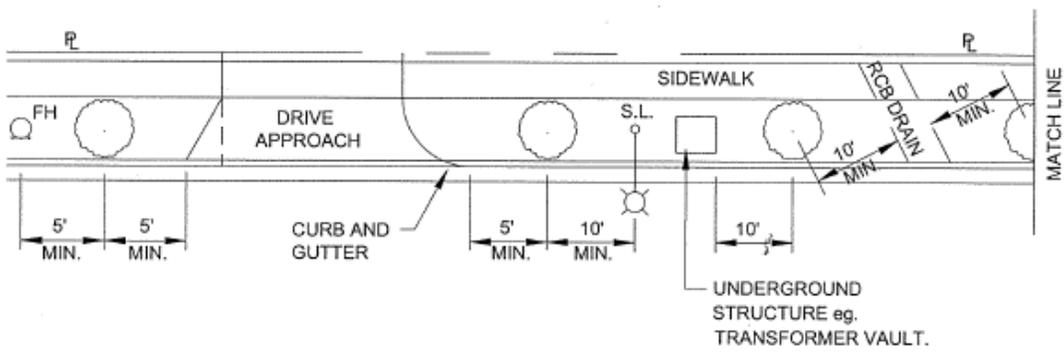
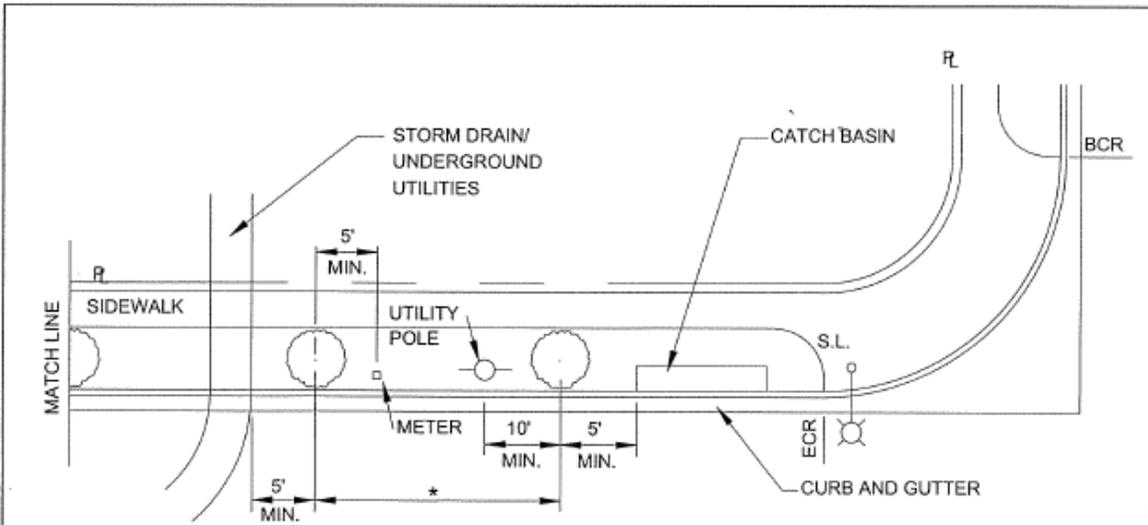
Notes:

- Eucalyptus: species vary in their resistance to the Lerp Psyllid. Do not use unless mandated by a separate instrument. E. camaldulensis not available in nurseries – check this for all Euc's.
- Liquidambar styraciflua: Not used due to the widespread Xylella fastidiosa infections.
- Pittosporum phillyraeoides: High maintenance due to drooping limbs.
- Pyrus calleryana & kawakami: Fireblight.
- Lagerstroemia indica 'Catawba': High maintenance due to shrub growth habit.
- Melaleuca quinquenervia: not for local Sunset Zones.
- Rhus lancea: use for replacement only; no new groups of Rhus due to high maintenance.

APPROVED STREET TREES FOR RANCHO CUCAMONGA

The following listed trees are intended for specific situations, and are subject to approval. For additional information please contact the Engineering Dept., Landscape Section (909) 477-2740.	Page 3 (supplement) Revised January 28, 2010
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Additional Trees for Park Situations	Palm Trees for Special Situations
Ulmus parvifolia Chinese Evergreen Elm	Phoenix canariensis Canary Island Date Palm
Jacaranda mimosifolia Jacaranda	Phoenix dactylifera Date Palm
Sapium sebiferum Chinese Tallow Tree	*Washingtonia filifera California Fan Palm
Magnolia soulangiana Saucer Magnolia	*Washingtonia robusta Mexican Fan Palm
Sequoia sempervirens Coast Redwood	*Note: Can be planted 5' min. away from street light.



NOTES:

- *1. TREE SPACING SHALL CONFORM TO PLANS APPROVED BY THE CITY ENGINEER.
- 2. ALL TREES IN THE R.O.W. ARE SUBJECT TO LINE OF SIGHT CRITERIA AS APPROVED BY TRAFFIC ENGINEER.
- 3. MAINTAIN 5 FEET FROM CENTER OF TREE TO EDGE OF ALL UNDERGROUND FACILITIES. IN ADDITION MAINTAIN 5' FROM CENTER OF TREE TO ALL UTILITY OWNED WATER & SEWER LATERAL LINES.
- 4. TREES SHALL NOT BE LOCATED ON PROPERTY LINES. MAINTAIN APPROXIMATELY 5' FROM CENTER OF TREE TO EITHER SIDE OF PROPERTY LINE.
- 5. STREET TREES ARE SUBJECT TO INSPECTION AND ACCEPTANCE BY THE ENGINEERING DIVISION.
- 6. STREET TREES SHALL BE PLANTED AND STAKED ACCORDING TO THE CITY STANDARD PLANS.

REVISED 11-20-92
 6-20-95
 2-10-06

CITY OF RANCHO CUCAMONGA, CALIFORNIA

APPROVED BY:

Whoneil
 CITY ENGINEER
 R.C.E. 24953

2/22/06
 DATE

TREE PLACEMENT

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

501

SHEET 1 OF 1

ENGINEERING SERVICES DEPARTMENT
10500 CIVIC CENTER DRIVE
RANCHO CUCAMONGA, CA 91730
(909) 477-2740

GUIDELINES FOR PREPARING PUBLIC IMPROVEMENT LANDSCAPE (LMD) PLANS

GENERAL

1. All public improvement landscape plans must be on 24" x 36" sheets and use the City's Engineering title block (no other title blocks are permitted).
2. All landscape submittals shall use the City's approved title sheet, which is available from the Engineering Services Department
3. The City's standard plans are the details to be used. Copies are available from the Engineering Services Department or online at www.CityOfRc.us (City Hall – Engineering – Land Development)
4. Plans should reflect City maintenance areas only and should not reflect information beyond the scope of city maintenance areas.
5. Incomplete designs, details, etc., will not be accepted. Plan checking will be done only on plans that are complete in all phases of design.
6. Number sheets consecutively, commencing with the title sheet as L-1. Beneath the title blocks on all sheets, add "Project Sheet No. _____ of _____." This is for City use and is not to be numbered.
7. Scale: Plans at standard scales of up to 1" = 40' will be accepted, 20 scale is preferred. Scale shall appear on each sheet. NOTE: Plans must be clearly legible if at 40 scale.
8. A "north" arrow shall appear on each sheet, in the lower right hand corner, with a reduced maintenance responsibility map (on projects with more than one base sheet). The maintenance responsibility map shall reference which portion of the overall landscape area is addressed by the sheet.
9. Show all match lines clearly and label to provide easy plan reference to adjacent sheets. Projects designed in phases shall reference match lines to the approved drawing and project numbers of plans.
10. Show and clearly label all property lines, easements, and project limit lines.
11. Overall cross section in right-of-way to be 2%. Maximum slopes in turf areas – 5:1 ratio. Grades above 2% between walk and curb require special permission of the City Engineer. Maximum slopes in non-turf berm areas between sidewalk and curb – 4:1 ratio. Maximum slopes in non-turf areas behind sidewalk – 3:1 ratio. Slopes in excess 5 vertical feet shall have a 2' wide flat area at top of slope. Slopes less than 5 vertical feet shall have a 1 foot flat area at the top of slope and all slopes shall have a 1 foot wide flat area at the toe of slope.

12. Provide a cross section for each typical landscape area, which shows hardscape elements, planting areas, right-of-way line, types of easements, grade ratios between top and toe of slopes, dimensions, and wall footings in relation to property lines.
13. Interior paseos or other landscape areas not tied to street improvement plans shall provide grading plans as part of the Landscape Maintenance District (LMD) plans. Plans shall show collection and disposal of water as needed around landscape features.
14. Provide layout information for special hardscape features such as cobble, boulders, concrete headers, retaining walls, monument walls, etc.
15. Landscape areas are required to demonstrate a reduction in landscape area by utilizing 40% concrete-embedded rock cobble areas. Normal corner returns and sidewalks up to 4' wide do not contribute towards this percentage as they are required. However, additional sidewalk width (if compatible with adjacent developments and approved by Engineering) may be counted as landscape-reducing hardscape. In the instances of Equestrian trails, reduced rockscape percentages may be considered. Rockscape should be designed as large areas that appear to "flow" from one side of the sidewalk to the other. Avoid placing rockscape directly adjacent to perimeter walls.
16. Reference spot elevations on plans at street intersections, at top and toe of slopes, project limits and garden walls within City maintained areas.
17. Separately bound specifications (book specifications) will not be accepted. City specifications for irrigation and planting should be on plan sheets and be clearly legible.
18. Provide structural calculations and construction drawings for any structures, garden walls, light post footings, etc., within City maintained areas. Such information may need to be shown on other public improvement plans.
19. For the public's health, safety and welfare, paseos or other areas away from street lighting will be required to provide a lighting plan prepared by an electrical engineer. Fixtures are to be spaced so as to provide light levels of a min. of 0.5 foot candles. Full wiring diagrams and structural calculations for the lighting fixtures are required.
20. Upon approval of the plans, the Owner / Developer shall deliver to the Engineering Services Department one (1) complete set of ink on mylar or photo mylars. No pencil-work, sticky-backs or lettering tape will be accepted. Each sheet shall be wet-signed by a registered Landscape Architect, State of California. The renewal date shall be shown. Once signed by the City Engineer, the mylars are kept as permanent records at the City.

IRRIGATION PLANS

1. Irrigation for City maintained areas must be on a separate water meter.
2. Provide P.O.C. information
 - Source – call Cucamonga Valley Water District (CVWD) at (909) 987-2591
 - Available static pressure range
 - Date obtained
 - Meter size
 - Peak demand
3. Provide elevations for finish grade at the meter, finish grade at the highest head served, top of curb(s) at BCR(s) and other pertinent points as needed.
4. Pressure main line pipe shall be PVC Class 315 for pipe 2" and larger, and PVC Schedule 40 for pipe 1 ½ "and smaller. All non-pressure laterals shall be schedule 40 PVC pipe. Surface pipe is not permitted.
5. Pipe sleeving is to be Schedule 40, twice the size of the sleeved pipe. Sleeving at street crossings shall be routed around handicap ramps.
6. All irrigation equipment to be per Public Works Landscape Irrigation Equipment List
7. Irrigation head spacing shall be as follows: Where square patterns are used, heads shall be spaced at 45% of diameter. Where triangular spacing is used, heads shall be spaced at 50% of diameter.
8. Sequence irrigation stations beginning a short distance from the controller and continue in a "loop" to finish back at the controller.
9. Automatic controllers are to be mounted in an approved controller enclosure. Provide a separate Edison approved metered enclosure per city standard plans. Refer to equipment list.
10. Provide isolation valves at all street crossings and other situations requiring flow control. Refer to equipment list.
11. Projects designed in phases shall require a master irrigation P.O.C. design.
12. Quick couplers are required every 150 feet o.c. and shall be located in valve boxes. Refer to equipment list.
13. Remote control valves are to be from the Rainbird EFB-CP-PRS-D Series. Where flows are relatively low the Rainbird PEB Series valves may be used.
14. Due to vandalism and other concerns, the landscape architect must obtain permission from the City before designing with drip irrigation.
15. Provide separate control valves for trees and shrub/ground cover areas when using drip irrigation.
16. Backflow devices are to be either the Febco 825-Y-BV or 825-YA, placed parallel to street and enclosed in a protective enclosure. Refer to equipment list.

17. It is recommended that irrigated parkways be designed as follows:

- Planting areas less than 3' – rock or other approved hardscape
- 3' wide planting areas – low plant material (under 12") can use a single row of strip sprays. Taller plant material would require the single row of strip sprays to be tightened up on spacing, to about 6 or 8 feet o.c., 6" pop-up bubblers may also be used, irregardless of plant size.
- 3' to 4' wide planting areas triangulated strip sprays (low plant material only – under 12"). If taller plant material is proposed, the strip sprays should either decrease spacing as described above, or be changed to the more conventional spray heads (i.e., the 5 or 8 Series with PCS Screens). 6" pop-up bubblers can also be proposed. Do not connect spray heads, strip spray heads or bubblers together within the same system.
- 4' to 15' wide planting areas – coverage from both sides of the parkway with radius control as needed from PCS screens. Under most conditions, the Rainbird 5, 8, 10, 12 and 15 Series nozzles should be adequate.
- Larger planting areas, over 15' wide (plant materials over 12" in height) – use the Rainbird 8, 10, 12, and 15 Series Nozzles, and space sprinklers as needed for adequate coverage.
- Larger parkways over 15' wide (plant materials under 12" in height) – may propose rotors. Designers are cautioned, however, to watch the "water windows" with these sprinklers. If there is a "water window" problem with rotors. Rainbird 16 or 22 Series nozzles may be used.

18. The City has a limited window of time to apply water. If turf is used, the irrigation design shall be able to accommodate a watering schedule based on a minimum of 3" per week applied between 9:00 P.M. and 5:00 A.M., 5 days a week. Shrub areas require 2" per week. Only one valve per controller shall operate at a time.

19. Slope conditions 5' or greater in elevation – Provide separate control valves for sprinkler lines operating systems at the top, toe and intermediate areas of slopes. Sprinkler lines shall run parallel (or as close as possible) to contour lines.

20. Provide irrigation legend on each sheet, reduce if necessary. Reference the corresponding planting plan sheet number.

21. Place the irrigation legend on each sheet, reduce if necessary. Reference the corresponding planting plan sheet number.

22. For Calsense controller programming purposes, note the square footage watered for each valve.

PLANTING PLANS

1. The use of turf is not acceptable in publicly-maintained areas, unless a park is involved. Where its use is approved, turf quantities should not exceed 15% of the total landscape area, unless special permission is given by the Engineering Services Department.
2. Utilize the approved plant materials and spacing per the Approved Plant Materials for City Maintenance Areas. Designs should be drought tolerant, colorful and low maintenance.
3. Provide a complete plant palette legend based upon the approved list of plant materials. Include symbols, botanical and common names, city's assigned plant spacing, sizes, and estimated quantities per sheet. Place the plant legend on each planting sheet, reduce if necessary. Reference the corresponding irrigation plan sheet number.
4. Plant symbols are to be drawn at the city's assigned plant spacing. Where graphic patterns are used, the width of any pattern shall not be less than the o.c. spacing of the represented plant – i.e., a pattern symbol for a 6' o.c. shrub should not be shown as 4' wide in any area. The exception to this rule would be where the plant is adjacent to rockspace, where overgrowth is encouraged (see line 6. Below). Provide individual plant callouts, noting plant type and quantity.
5. All shrubs and vines are to be 5 gal. size, minimum. Street trees are to be 15 gal. size, except for Eucalyptus species which are to be 5 gal., and Crape Myrtles, which are to be 24" box. Specimen size trees require special approval due to poor establishment in the locally high winds.
6. Utilize spreading/trailing shrubs adjacent to the rock cobble areas to grow over the edges and soften their appearance. Plants may be spaced up to ½ of the assigned radius to decorative cobble; as edging is not a concern.
7. Avoid locating strap leaf plants adjacent to curb and sidewalk, as this creates maintenance issues.
8. To minimize opportunities for graffiti, self-attaching vines should be planted 15' o.c. against perimeter walls. Large shrubs (where adequate space is) can provide a second layer of defense.
9. Show elements of constraint. Identify all edges of City-maintained areas, i.e., walls, tubular steel fences, mow-curbs. Show street lights, storm drains, public utilities, water meters, fire hydrants, etc.
10. Interior street trees are generally required to be evergreen on north/south streets and deciduous along east/west streets. Contact Engineering Services Department regarding designated species per street. These trees are approved and constructed per public improvement plans. Refer to Street Tree Requirement Form and/or the project's Conditions of Approval.
11. In most instances, landscape areas shall receive 4" of mulch instead of understory ground cover. Specify Wood Chip Mulch #3 (1" to 2" size chips or equal) available from Artesia Sawdust – 13434 Ontario Ave., Ontario, Ca 91761 (909) 947-5983 | Fax (909) 923-7208
12. Avoid mono-cultural planting areas
13. Group plant materials with thatched water requirements.
14. Planting at all intersections is subject to safe sight distance criteria as determined by the Traffic Division. Shrubs and ground covers within areas of concern are to be 24" or less in height. Generally, to avoid conflicts, plantings between the curb and sidewalk should be under 24".

CITY OF RANCHO CUCAMONGA – ENGINEERING SERVICES DEPARTMENT
STREET DESIGN POLICY

A. CHARACTERISTICS BY STREET TYPE:

Classification	(1) Right of Way (Ft.)	(1) Curb to Curb (Ft.)	Min. Design Speed (MPH)	Min. Centerline Radius (Ft.)	(2) Min. Tangent (Ft.)	(3) Min. Intersection Spacing (Ft.)	(4) Curb Ratum Radii (Ft.)
Local Residential	60	36	25	300	0	200 125 (5)	27
Collector Residential & Local Industrial	66	44	40 35 (5)	850 600 (5)	160 140 (5)	300 150 (5)	27
Secondary Arterial	88	64	50 45 (5)	1400 1100 (5)	200 180 (5)	660	35
Major Arterial	100	72	55 50 (5)	1850 1400 (5)	220 / 200 (5)	660	35
Major Divided Arterial	120	94	60 55 (5)	2400 1850 (5)	240 220 (5)	1320 660 (5)	35

- (1) Most major intersections will require expanded width for additional turning lanes.
- (2) Minimum tangent section between reversing curves and at intersections from cross street near curb face projection to beginning of curve (B.C.).
- (3) Measured between centerlines. For driveways see separate "Driveway Policy."
- (4) At intersection use designation for larger street.
- (5) This reduced absolute minimum may be used for unusual conditions, when approved by the City Engineer.

B. GENERAL

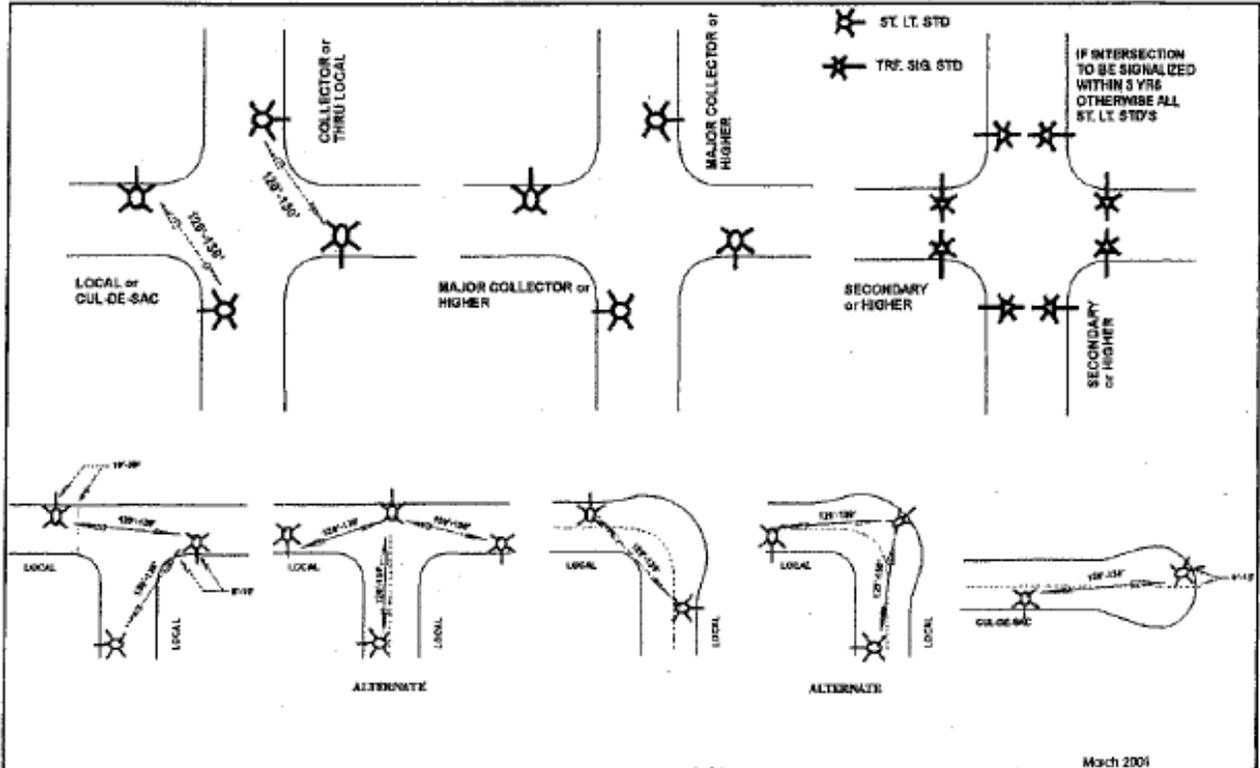
1. **Cross Gutters:** (a) Not to be used mid-block, across thru collector or larger streets, or where storm drains are available. (b) Use straight grades (c) Grade into cross gutters: 2.5% maximum for streets with grades of less than 5%, 4.5% maximum for streets with grades of 5.0 % or more and P.I for vertical curves to be a minimum of 50 feet from the flowline
2. **Cul-de-Sac:** The maximum length shall be 300' for high density residential projects (i.e., condominium, apartment, attached multi-family) and 600; for others. The length shall be measured from the through cross street near curb face projection to the farthest curb in the bulb.
3. **Curb Returns:** (a) Shoulder cross fall not to exceed 6% (b) minimum 0.4% grade where no cross gutter
4. **Four-Way Intersections:** generally preferred over offset "T" type on collector or larger streets.
5. **Gated Entrances:** (private streets and drives) shall conform to separate "Gated Entrance Design"
6. **Grades:** (a) Maximum – 12% sustained, up to 15% for lengths of 300' or less when separated by segments of 700' or more of 12% or less. (b) Minimum – 0.4% for new streets, may be less when matching existing improvements when approved by the City Engineer.
7. **Headers:** (2" x 4" redwood) required at edge of pavement not adjacent to gutter or existing pavement
8. **Intersections:** Includes knuckles, shall be perpendicular (radial on curves).
9. **Local Streets:** (a) Avoid four-way local to local intersections (b) Maximum 800' straight section (c) Maximum 1500 ADT.
10. **Median Islands:** Crossfall (tope of curb elevation difference) shall not exceed 3%
11. **Tilt Sections:** (offset crowns) or super elevations will not be allowed except in unusual conditions, when approved by the City Engineer.
12. **Vertical Curves:** Required for 0.5% + grade breaks. The minimum length shall be governed by the longer of the following: (a) 60' minimum (b) Sight Distance or (c) $1.2 A V^2$ where A = algebraic grade difference (%100) and V = design speed (MPH). Non-symmetrical vertical curves are unacceptable.

CITY OF RANCHO CUCAMONGA STREET LIGHTING STANDARD

Based on 0.4 average maintained Foot Candle Residential
0.8 Commercial with High Pressure Sodium Vapor luminaries

<u>Street Type</u>	<u>Placement</u>	<u>Lamp Size</u>	<u>Spacing</u>
<u>RESIDENTIAL</u>			
Local	Staggered	5800 Lumen	120' to 130'
Collector	Staggered	5800 Lumen	105' to 115'
Secondary	Opposite	9500 Lumen	200'+/- each side
Major	Opposite	9500 Lumen	200'+/- each side
Major Divided	Opposite	9500 Lumen	175'+/- each side
<u>INDUSTRIAL</u>			
Local	Staggered	5800 Lumen	120' to 130'
Collector	Staggered	5800 Lumen	120' to 130'
Secondary	Opposite	9500 Lumen	200'+/- each side
Major	Opposite	9500 Lumen	200'+/- each side
Major Divided	Opposite	9500 Lumen	175'+/- each side
<u>COMMERCIAL</u>			
Collector	Staggered	5800 Lumen	105' to 115'
Secondary	Opposite	16000 Lumen	150'+/- each side
Major	Opposite	16000 Lumen	150'+/- each side
Major Divided	Opposite	16000 Lumen	150'+/- each side

INTERSECTION LIGHTING



DRAINAGE DESIGN POLICY

1. The latest adopted SBCFCD hydrology manual shall be used for hydrology studies. The intensity duration curve slope shall be 0.6 as shown on Paragraph D-4, Page D-6 of the manual.
2. Regional and master plan facilities shall be designed to convey a Q100 within the conduit (plus freeboard for open channels).
3. Local public facilities shall be designed to contain a Q100 within the public right-of-way for streets (top of curb for erosive velocities). Pipes in easements, trails, etc., shall be designed to contain Q100. Local open channels are not allowed.
4. Drainage from public facilities (streets, trails, etc.) across private property shall utilize an underground pipe contained in a public easement extending to an acceptable public facility.
5. Interim drainage from public facilities may be allowed to enter onto private property if a drainage acceptance agreement is provided.
6. Permanent public storm drain mains shall be 24 inch minimum diameter RCP. Catch basin laterals may be 18 inch minimum RCP.
7. An unflooded driving lane for a Q10 shall be provided as follows: 20 feet wide for 4 or more lane streets (10 feet each side of a median), and 10 feet for designated collectors and locals with 1500 + ADT.
8. Landscaped medians and parkways shall not be exposed to velocities in excess of 3.0 fps for Q100.
9. The product of the velocity (fps) times the depth of flow at the curb (ft.) shall be less than 6 for Q100.
10. In a sump condition, provide a secondary overflow for Q100 assuming the sump catch basin is plugged and maintain a Q50 below the top of curb.
11. The outside edge of a storm drain pipe shall be 5 feet minimum from the outside edge of a mature tree base.
12. The water surface in catch basins shall be a minimum of 6 inches below the gutter flow line.
13. Drainage Easements:
 - a. Property lines shall not encroach parallel into an easement.
 - b. 12 foot wide for up to 57 inch pipe
 - c. 25 foot wide for 60 inch pipe and over
14. Manning's n value for street flow calculations shall be 0.015 for street with no driveways or parked vehicles and 0.020 for others.

DRAINAGE REPORT REQUIREMENTS

The report shall contain the following:

1. A cover page containing:
 - a. The title “DRAINAGE REPORT”
 - b. The project’s City Identification Number – Tract 13650, DRC2016-01234, etc.
 - c. The seal, the expiration date of the license, and the signature of the responsible Registered Civil Engineer per Section 6735 of the Professional Engineers Act. Also include his/her address and phone number.
2. A written narrative explaining the purpose and content of the report.
3. A drawing to scale clearly depicting the proposed Development and related drainage facilities.
4. Hydrology calculations in conformance with Figure D-5 of the San Bernardino County Hydrology Manual.
5. Hydraulic calculations justifying all drainage facilities.
6. Sufficient information to define the hydraulic characteristics of all drainage facilities – size, slope, material, etc.
7. Verification that the site is protected from a Q100.
8. Verification that offsite facilities will not be adversely affected by the Development considering a Q100.
9. The identification of any required offsite easements. For subdivisions, all required offsite easements shall be obtained prior to scheduling the project for Planning Commission review.
10. Three copies of the report shall be submitted directly to the City Engineering Division Department.

SUBDIVISION MAP - GENERAL CHECK LIST

SUBMITTAL

First Plan Check for subdivisions shall include submittal of the following items:

1. Title Report (not over 60 days old)
2. Traverse Data
3. Copies of boundary reference deeds and maps

GENERAL ITEMS

1. North arrow, scale, basis of bearings, sheet numbers and border.
2. Boundary referenced, i.e., deeds, R.S., M.B., & P.M.B.
3. Type of monuments, found, set, tags and depth.
4. Closure within allowable limits, 0.02' diagonally.
5. Title Sheet & Title Report Agreement
6. Dedication of Street, Storm Drain Drainage & Public Utilities.
7. Deeds, right-of-way acceptance of drainage acceptance complete, received and/or recorded.
8. Symbol designations uniform and legible, i.e., distance, bearings and monuments.
9. "Vicinity" style boundary map that adequately designates subdivision on one sheet.
10. Detail curves, tangent, curve length, delta, radials and adjoining tangents. Graphically emphasize short segments of large radius curves.
11. Curve tables shall list only curves on page on which table appears.
12. Traverse data and map data in agreement.
13. Delineation of new right-of-way lines for streets are to be solid; old lines dashed.
14. Remainder parcels shall be clearly designated as such.
15. Distinctive boundary to be along street right-of-way unless otherwise approved.
16. Maps prepared which have property lines based on occupation must show existing physical features.
17. Any single double proportioned corners must indicate both record and measured dimensions.
18. Street abandonments or acquisitions outside or partially within the boundary of the subdivision, require a property description and plat for State processing. County Recorder's recording data will be required before delineation of such action can be placed on map.
19. Radial bearings shown for any curve must radiate from the center of the curve.

SUBDIVISION MAP CERTIFICATES

CITY ENGINEER'S STATEMENT

I HEREBY STATE THAT I HAVE EXAMINED THIS MAP, THAT THE SUBDIVISION SHOWN THEREON IS SUBSTANTIALLY THE SAME AS IT APPEARED ON THE TENTATIVE MAP AND ANY APPROVED ALTERATIONS THEREOF, AND THAT ALL THE PROVISIONS OF THE SUBDIVISION MAP ACT AND THE CITY OF RANCHO CUCAMONGA MUNICIPAL CODE HAVE BEEN COMPLIED WITH.

JASON C. WELDAY - R.C.E. 67514

DATE



CITY SURVEYORS STATEMENT

I HEREBY STAT THAT I HAVE EXAMINED THIS MAP AND THAT I AM SATISFIED THAT THIS MAP IS TECHNICALLY CORRECT.

W. MATTHEW ADDINGTON - PLS 7649
CITY SURVEYOR OF THE
CITY OF RANCHO CUCAMONGA

DATE



City of Rancho Cucamonga
SUBDIVISION MAP CERTIFICATES

SOILS REPORT

Pursuant to the provisions of Section 66434(F) of the Subdivision Map Act, a soils report was prepared by _____, R.C.E. date _____ for this subdivision and is on file in the Rancho Cucamonga Building Division.

GEOLOGICAL REPORT

Pursuant to the provisions of Section 66434(F) of the Subdivision Map Act, a geological report was prepared by dated _____ for this subdivision and is on file in the Rancho Cucamonga Building Division.

CITY ENGINEER'S STATEMENT (For Tract & Parcel Maps)

I hereby state that I have examined this map, that the subdivision shown thereon is substantially the same as it appeared on the tentative map and any approved alterations thereof, and that all the provisions of the Subdivision Map Act and the City of Rancho Cucamonga Municipal Code have been complied with.

_____ Dated _____
(Call for City Engineer Name & RCE #)
City Engineer of the City of Rancho Cucamonga Registration
Expires *(Call for Date)*

CITY SURVEYORS STATEMENT

I hereby state that I have examined this map and I am satisfied that this map is technically correct.

_____ Dated _____
(Call for City Surveyor Name & RCE #)
City Surveyor of the City of Rancho Cucamonga Registration Expires
(Call for Date)

RANCHO CUCAMONGA PLANNING COMMISSION CERTIFICATE

I hereby certify that the subdivision shown on this map is in substantial conformance with the tentative map approved at a meeting of the Planning Commission of the City of Rancho Cucamonga, County of San Bernardino, State of California, held on the _____ day of _____, 20____.

_____ Dated _____
(Call for Name)
Secretary of the City of Rancho Cucamonga
Planning Commission

CERTIFICATES
(Continued)

RANCHO CUCAMONGA CITY COUNCIL CERTIFICATE

I hereby certify that the City Council of the City of Rancho Cucamonga by a motion duly seconded and passed, approved the attached map on the _____ day of _____, 20_____.

- ...and accepted for public use the dedication(s) therein offered...
- ...but rejected the offer of dedication(s)...
- ...but rejected lot(s) "A", "B" and "C"...

Call For Name
City Clerk of the City of Rancho Cucamonga

Dated _____

SIGNATURE OMISSIONS (if applicable)

The signature of the following have been omitted under provisions of Section 66436(c)(1) of the Government Code since their interest cannot ripen into a fee.

1. _____, Company, owner of an easement for _____ purposes as recorded (in Book _____, Page _____, of Official Records) or (by Instrument _____, Official Records), and cannot be located from record data.
2. _____, owner of an easement for ingress and egress purposes as reserved (in Book _____, Page _____, of Official Records) or (by Instrument _____, Official Records).
3. _____, successor in interest to _____ holder of an easement for _____ purposes as recorded (in Book _____, Page _____, of Official Records) or (by Instrument _____, Official Records)
4. _____, owner of all oil, gas, minerals, hydrocarbon and kindred substances as specified within _____. Said rights cover all the entire area being subdivided.

Easements must also be shown upon the applicable sheets of the map. If it cannot be located, one of the following statements must accompany the signature omission statement:

1. The easement is blanket in nature
2. The easement cannot be located from record

When an easement is locatable and shown upon the map, the owner's names, the nature of their interest and the reference document must be noted within or adjacent to the area so delineated on the map. The easements shall be shown with enough bearings and distances to adequately locate its position.

If an easement does not affect the particular parcel being subdivided, a signature omission is not necessary.

OWNER'S CERTIFICATE (FOR TRACT OR PARCEL MAP)

We hereby certify that we are all and the only parties having any record title interest in the land subdivided as shown upon the annexed (attached) map and we hereby consent to the preparation and recordation of this final (tract / parcel) map, and hereby dedicate to the City of Rancho Cucamonga for public use _____ street, _____ court, the widening to _____ street, and Lot _____.

Fill in the applicable street names into the above blanks. If no streets or Lots are necessary to be dedicated, omit the applicable portions from the above.

If more dedications are necessary for non-public use add onto the owner's certificate the additional paragraph(s).

Furthermore, we also hereby dedicate to the City of Rancho Cucamonga the: drainage easements, the public utility easements, the sidewalk easements, the street tree easements and all rights of (vehicular) ingress to or egress from lots _____ through _____, inclusive, over and across the (insert proper cardinal direction) line of said lots abutting _____ street.

If necessary, the following may be conditioned to be added to the Owner's Certificate:

We hereby grant in fee simple to the City of Rancho Cucamonga lot _____ as shown upon the annexed (attached) map.

Certain projects may require that reservation be stated in the owner's certificate, such as:

We hereby reserve unto our heirs and assigns and the future owners of the lots herein affected certain private drainage easements, an easement for ingress and egress, and an easement for driveway purposes as shown upon the annexed (attached) map.

Or

We hereby reserve unto our heirs and our assigns a/an _____ easement over and across lot _____ for the use and benefit of lot _____.

The owner's signature lines must be placed underneath this certificate. Their names or the corporation's name must be as stated within the preliminary title report. If the current owners are not the Subdividers and will not be endorsing the map, a letter stating who the correct owners at the time of recording is required. If the current owners are not required to sign the map, but will retain ownership of the property after recording and someone else will sign the map on behalf of the current owners this certificate will be changed to stat SUBDIVER'S CERTIFICATE.

Furthermore, not all portions of this certificate will be used when the Subdividers are not actual fee owners. Contact the City of Rancho Cucamonga Engineering Services Department when this becomes the case for exact verbage changes.

If required by the Subdivision Map Act, the trustee(s) or beneficiary(s) must endorse the map. Their signatures must be placed underneath the owner's signatures. Their interest shall also be stated upon the map as such:

_____ Corporation, as trustee (or beneficiary) per instrument recorded _____ in Book _____ at Page _____ Official Records of San Bernardino County.

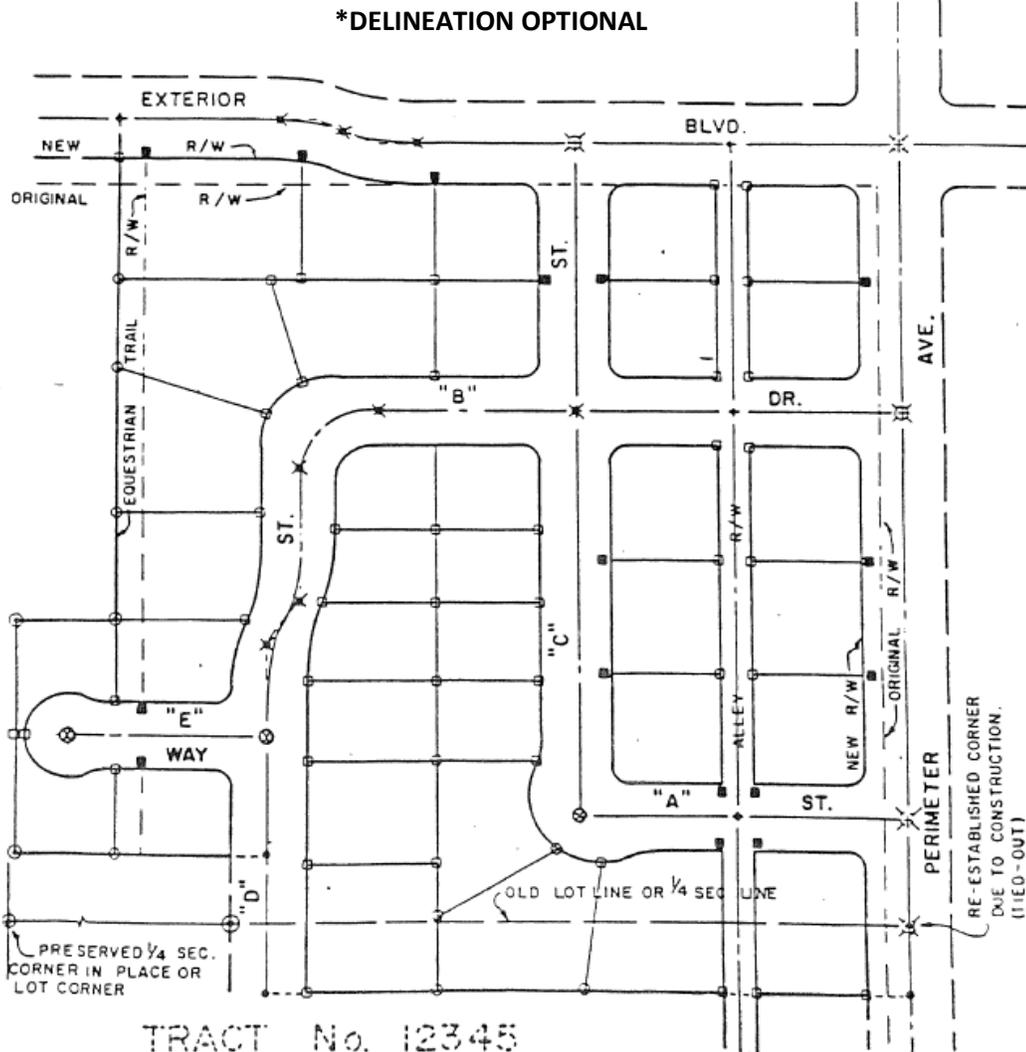
By: _____ By: _____

MONUMENTATION

(RECOMMENDED SYMBOLS)

LEGEND:

- Set 1" I.P. Tagged (RCE / LS)
- ⊠ Set 1" I.P. with ties Tagged (RCE / LS)
- ⊙ * Set 2" I.P. Tagged (RCE / LS)
- ⊗ Set 4 PM in MH Rim with ties
- ⊙ Set Section Corner Ties (where applicable)
- Set 6" Boat Spike with PM and Washer Tagged (RCE / LS)
- ⊗ Set 6" Boat Spike with PM and Washer Tagged (RCE / LS) with ties
- ⊠ * Existing Monument Set Ties (or confirmed)
- * Set 2" x 2" redwood Hub Tagged (RCE / LS)
- * Set Lead & Tack Tagged (RCE / LS) in T.C. or S.W. on line instead of 2" x 2" Hub



MONUMENTATION

(GUIDELINES)

A. STREETS

1. 1" (I.D.) iron pipe (minimum 18" in length) on street centerline. Point of Intersection or Beginning of Curve and Ending of Curve are required.
2. In A.C. pavement, the top of the pipe shall be ¼" below the finished pavement surface. Permanent swing ties (to P.C.C. curbs) shall be established (lead and tack).
3. Monuments shall be set 6" below surface when streets are not to be paved. Permanent swing ties shall be established.
4. Swing ties shall not be required for Offers of Dedication that are not improved.
5. Where the tract boundary is on a street right-of-way line or centerline, a 1" iron pipe may be set on the prolongation of the tract boundary at the street centerline in lieu of a monument at tract corner.
6. Characteristics of the soil should dictate the type, length and diameter of monument to be used at the tract boundary. In any case, a 1" iron pipe shall be the minimum monument used (18" in length).
7. Diagrams of centerline ties shall be per attached. When P.I.'s are set, the E.C. and B.C. are not required if P.I. is in paved area of the street. B.C., E. C. and P. of R.C. shall be established if P.I. cannot be set in street pavement area. P.I.'s of curves on Offers of Dedication may be monumented in lieu of the E.C. and B.C.

B. LOT CORNERS

1. All shall be monumented with 2" x 2" redwood stakes, a minimum of 15" in length, painted white tagged or stamped with R.C.E. or L.S. number and set at the exact lot corner. The top of all lot stakes will be set 3" to 5" above surface of ground.

C. ALTERNATE MONUMENTS

1. The following shall be considered as acceptable alternate monuments for lot corners:
 - i. Lead, tack and tag or nail and tag, set in permanent concrete.
 - ii. ½" iron rod (minimum 18" long).
 - iii. ¾" (I.D.) iron pipe (minimum 18" long).
 - iv. Nail and tag in curb or sidewalk on prolonged lot lines may be set in lieu of front stakes.
 - v. Type of monumentation shall be indicated on map in Engineer's notes. When it is not practical to monument lot corners as noted above, other alternate monumentation shall be approved by the City Engineer prior to installation and recordation of the map.
2. The acceptable swing tie alternate is a #10 roundhead brass screw minimum length of 1 ¼", counter sunk ½" (plus or minus) below the top of the curb.
3. Street monument alternates shall be in conformance with Standard for "Typical Subdivision Monumentation" diagram.

MONUMENTATION CONTINUED

D. GOVERNMENT CORNERS

1. The following shall apply to all sectional corners wherever encountered:
 - i. 2" (I.D.) iron pipe with brass plate in WELL TYPE MONUMENT (minimum 18" long with 4" lid) shall be set at section corners and ¼ corners, in street right-of-ways.
 - ii. 1" (I.D.) iron pipe 18" in length (minimum), with brass plate or tag, shall be set at 1/16 corners in street right-of-ways and all section corners and ¼ corners not in street right-of-ways'.
 - iii. All section and ¼ corners directly used in the subdivision of a section will be marked with a permanent durable monument as specified above. 1/16 corners will be set when pertinent to the survey.

E. MONUMENTATION INSPECTION

1. Control boundary monuments shall be set and are subject to inspection prior to recordation (filing) of the final map. If proposed grading conditions prohibit the setting of monuments as noted above, information shall be submitted to the City Engineer to insure that the boundary is adequately monumented or referenced before the map is recorded.

F. NOTES (TIE SHEETS)

1. For each centerline intersection monument set, and such other monuments as are deemed necessary by the City Engineer, the Engineer or Surveyor under whose supervision the survey has been made, shall furnish the City Engineer a set of notes showing clearly a sufficient number (normally four) of durable distinctive reference points or monuments. Such reference points or monuments may be lead and tack in sidewalk or curbs, iron pipes, or such substitutes as appears unlikely to be disturbed. Notes shall be submitted in conformance with "Street Tie" diagram.

G. MONUMENT DISTURBANCE OR OMISSION

1. Existing monuments that are foreseen to be disturbed, removed or paved over shall be tied out (or check of existing ties). After construction, new ties shall be submitted and the monument replaced with a monument similar to the original.
2. Monuments, of record, which are missing during survey shall be replaced and ties provided at the end of construction activities.
3. Bench marks disturbed or removed during construction shall be replaced with a monument similar to the original in conformance with level of circuitry. Level circuit notes shall be submitted to the City Engineer for approval.

