STREET DESIGN AND CONSTRUCTION STANDARDS

Adopted by the Santa Rosa City Council
Resolution No. 25865
January 13, 2004
RESOLUTION NO. 25865

RESOLUTION OF THE COUNCIL OF THE CITY OF SANTA ROSA ADOPTING REVISED STREET DESIGN AND CONSTRUCTION STANDARDS

WHEREAS, the Council by Resolution No. 10498, as amended by Resolutions Nos. 10902, 11135, 11401, 11780, 11971, 13219, 13621, 13879, 15218, 16586, 16814, 17832, 17832, 17943, 18034, 18342, 19420, and 22578 adopted Standard Street Design and Construction Standards for the City of Santa Rosa ("Standards"); and

WHEREAS, revisions are periodically made to the Standards pursuant to Santa Rosa City Code section 18-04.070; and

WHEREAS, the Council directed that the Standards, among other City policies and documents, be revised to conform with the City’s Design Guidelines, as adopted by Council Resolution No. 25068 in December 2001; and

WHEREAS, the Standards were reviewed and have been revised by the Standards Committee to bring them into conformity with the City’s Design Guidelines, as directed by the Council; and

WHEREAS, the Council, after review of the revised Standards finds that proposed Alley Standard 202A and proposed 45° Parking Bay Standard 214 require revisions and directs that they be removed and excluded from the revised Standards as presented by staff in proposed Exhibit “A” and be returned to the Standards Committee for further review and revision; and

WHEREAS, the Council directs that Neighborhood Street Standard 200D be reviewed by the Standards Committee to consider whether it should be revised to allow a neighborhood street to end in a cul-de-sac; and

WHEREAS, the Council directs that a committee be formed to address the street specific locations of medians and large planter strips and to propose Standards for each; and

WHEREAS, the Council directs that the property line in the Standards be located at the front of sidewalk.

NOW, THEREFORE, BE IT RESOLVED that the Council of the City of Santa Rosa approves and adopts the City of Santa Rosa “Street Design and Construction Standards”, as set forth in Exhibit “A”, which is attached to, and made a part of this resolution.

BE IT FURTHER RESOLVED that the “Street Design and Construction Standards”, as set forth in Exhibit “A,” shall be effective and shall be applied to any and all projects for which improvement plans are submitted to the City for review and approval on and after the 30th day from the date of adoption of this resolution. The Standards set forth in Exhibit “A” shall be the only Street Design and Construction Standards which shall be applied to projects and
improvement plans submitted on and after the 30th day. The Exhibit "A" Standards shall be available in book form in the Public Works Department for a fee of $25.00, which fee is to include copies of future updates and revisions of the Standards, as set forth in Exhibit "A".

IN COUNCIL DULY PASSED this 13th day of January, 2004.
AYES: (7) Mayor Wright; Councilmembers Bender, Blanchard, Condron, Evans, Martini, Rabinowitz
NOES: (0)
ABSENT: (0)
ABSTAIN: (0)
ATTEST: [Signature]
City Clerk
APPROVED: [Signature]
Mayor
APPROVED AS TO FORM:
[Signature]
City Attorney

Reso. No. 25865
Page 2 of 2
TABLE OF CONTENTS

Street Design Standards

I. Definitions

II. General

III. Improvement Plans Submittal Requirements
   A. Improvement Plans Submittal Requirements
   B. Parcel Map/Final Map Subdivision Checklist Sample
   C. City Engineer Approval Block

IV. Street Design
   A. Geometric Standard Cross Sections
   B. Access to Public Right-of-Way - Curb Cuts

V. Street Alignment

VI. Street Grades

VII. Intersections

VIII. Typical Sections

IX. Pavement Design
   A. Traffic Index
   B. Soils Reports
   C. Gravel Equivalents
   D. Improvement Plan Notations

X. Emergency Access During Construction Requirements
Typical Street Standards

DESCRIPTION

200 A - L  Street Widths
201  Crowns
202  Alleys (standard under review)
203A  Cul-de-Sac - 45 Foot Radius
203B  Cul-de-Sac with Island
203C  Cul-de-Sac - 40 Foot Radius
203D  Special Cul-de-Sac
203E  Special Cul-de-Sac with Island
203F  Private Hammerhead Turn Around
204A  Standard Street Knuckle - Residential Minor Street
204B  Minimum Knuckle Requirements
205  Emergency Vehicle Turnout
206  Temporary Turnaround for Future Through Road
207  Side Street Conform
208  Side Street and End of Overlay Conforms
209  Edge Grinding at Lip of Gutter with Overlay Section
210  Edge Grinding Detail at New Structural Section
211  Metal Beam Street Barricade
212  Road Widths Transition
213 Parking Bay
214 Angled Parking (standard under review)
215 A - C Standard Trench Detail
216 Utility Access Road

**Bus Stops**
220 Bus Stop at Intersection
221 Mid-Block Bus Stop
222 Concrete Bus Pad Detail

**Sidewalks**
230A - G Sidewalk and Planter Dimensions
231 Typical Sidewalk Obstruction Transition
232 A - B Pedestrian Ramp - Type A, Type B and Type C
233 Back of Sidewalk Conforms
234 Private Walkway Conforms - PCC and Asphalt Concrete
235 Typical Spacing: Weakened Planes, Score Marks and Expansion Joints
236 Sidewalk Barricade
237 Replacement of Existing Sidewalk

**Curbs**
240 Curb Return Plan Detail
241 Curb and Gutter
242 Street Median Curb
243 Standard Valley Gutter
Driveways

250A Commercial Curb Cuts
250B Residential Curb Cuts
250C Curb Return Driveways (Alternative A)
250D Curb Return Driveways (Alternative B)
251 Driveway Conform - (CC and Asphalt Concrete)
252 Driveway Conform for Unimproved Streets

Trees

260 Tree Planting in Planter Strip
261 Tree Planting in Right of Way with Contiguous Sidewalk
262 Tree Planting in Tree Well
263 Private Tree in Lieu of Street Tree
264 Moisture Barrier for Median Planting Areas

Miscellaneous

270 Parking Lot Typical Section
271 Mailbox Detail

City Monuments

280 City Monument
281 Brass Survey Marker
282 City Monument Cover
283 City Monument Cover Replacement
284 Lot Corner Reference Monument
STREET DESIGN STANDARDS

I. Definitions

"Alley" means any unnamed street used primarily for vehicular service access to the back or side of properties, and for which normal building setbacks may not or do not apply.

"Accessway" is a private primary access to more than four residential units and less than eight with no through traffic.

"Arterial/Regional Streets" (includes Parkways, and Boulevards) shall have the primary purpose of conducting large volumes of through traffic with minimal access and connect town centers to the greater region. Arterial/Regional Streets may be 2 to 4 lane. Side frontage streets parallel to arterials may be considered on a case by case basis by the City Engineer.

"Avenue" is a transitional street connecting residential neighborhoods to commercial centers, shopping centers, and other neighborhoods.

"Bike lane" means those on-street bikeways which are part of the normal street section and provide marked bike lanes which delineate the separate rights-of-way assigned to bicyclists and motorists.

"Bike path" means a separate, off-street bike path or trail which is not part of the normal street section.

"Boulevard" is a regional street that provides multi-lane access to commercial and mixed use land designations. Boulevards have medians and bike lanes.

"City Engineer" for the purposes of the Street Design Standards shall mean the City Engineer - Deputy Director of Community Development for private development projects, and the City Engineer - Deputy Director of Public Works and/or the City Engineer - Director of Utilities for public improvement projects, who shall be a civil engineer registered by the State of California and who shall be designated by the City Council to discharge those duties prescribed hereinafter to be performed by the City Engineer.

"Collector/Transitional street" (includes Avenues and Main Streets) shall have the primary purpose of intercepting traffic from intersecting local streets and handling traffic to the nearest arterial/regional street or intercepting traffic from one collector street and handling traffic to another collector street. It shall serve as an access to abutting properties. Collector/Transitional streets connect residential neighborhoods to commercial centers and service commercial districts.

"Cul-de-sac street" shall have the primary purpose of serving abutting land use and connecting to the nearest appropriate local street. It is a minor street with only one outlet.

"Curb cut" shall mean an opening or depression in the street curb installed and intended for
pedestrian or vehicular use. Curb cuts shall be measured across the "flat bottom" width of the opening or depression.

"Development" means and includes, but is not limited to, the subdivision of land, the construction of new structures or buildings, and changes or renovations to existing structures or buildings and the attendant construction of improvements, either of public or private nature, for which approval by the City of Santa Rosa is required prior to commencement.

"Driveway" For the purposes of single family detached housing, "driveway" means a way for vehicular traffic providing access to four or fewer lots or units over a common parcel or easement(s), and necessary service and emergency vehicles, but from which the general public may be excluded, and which are not maintained by a public agency. Driveways shall meet all provisions of the California Fire Code, as adopted by the City, with respect to Fire Department access where such serve as Fire Department access.

"Hillside" shall mean properties or portions of properties which have an average cross-slope of ten percent or greater, as computed by the following formula:

\[ S = \frac{(I)(L)(0.00229)}{A} \]

where,

- \( S \) = average cross-slope (%)
- \( I \) = contour interval in feet
- \( L \) = combined length of all contours on the property or portion of property,
- \( A \) = area of the property or portion of property in acres.

Properties or portions of properties to which this definition applies or which have other demonstrated hillside characteristics qualify for consideration for use of hillside design standards. Determination of the appropriateness of use of such standards shall rest with the City Engineer.

"Hillside street" shall have the primary purpose of providing access to hillside development. Street widths may be reduced to avoid excessive cuts or fills or tree removal if specifically approved by the City Engineer or City Council.

"Industrial street" shall have the primary purpose of handling industrial and manufacturing type business traffic. It is a street that provides access to or through an industrial zone, commercial zone, or an area of high truck and other large vehicle traffic.

"Lane" is a public or private access to ten residential units or less (see STD-200C).

"Local streets" (includes Minor and Neighborhood Streets, Lanes and Trails) provide access to neighborhood destinations and indirect connections between Transitional or Regional Streets.
“Loop street” shall be a one-way street providing access to a very limited number of residential houses. Use is extremely limited (see STD. 200B).

“Main street” provides access to neighborhood commercial and mixed use districts.

“Major street” (equivalent to Regional Streets, typically a Boulevard or Parkway) shall mean a street whose primary purpose is to facilitate movement of heavy traffic between major residential areas or major residential areas and commercial areas. Access is very limited.

“Minor Street” shall have the primary purpose of serving abutting land use and handling traffic to the nearest collector street.

“Neighborhood Street” shall have the primary purpose of providing access to small residential areas and shall specifically not be used for through traffic. The various streets within this designation are the one-way loop street, the lane, and the neighborhood street.

“Pathway/Trail (equestrian)” shall mean a public or private paved or rock-surface path, excluding sidewalks, for the use of horses.

“Pathway/Trail (mixed use)” shall mean a public or private paved or rock-surfaced path, excluding sidewalks, for the use of pedestrians and horses.

“Pathway/Trail (pedestrian)” shall mean a public or private paved or rock-surfaced path, excluding sidewalks, for the use of pedestrians.

“Parkway” is a connection between towns or through a natural area and are not designed to accommodate adjoining development.

“Private street” means a way for vehicular traffic providing access to lots or units over a common parcel or private easement, primarily by the owners or occupants of the common parcel, and necessary service and emergency vehicles, but from which the general public may be excluded, and which are not maintained by a public agency.

Such streets may be designed and constructed to different standards than public streets in the following areas: surface treatment, street lighting hardware, signing and entry islands. Private streets should not connect two or more public streets (except when necessary for internal circulation or emergency vehicle access) and shall be designed and constructed to the standards of public streets in terms of minimum width (may be reduced when meeting specific criteria - see Standards 200 A through 200 L) structural section, curb, gutter, sidewalk, and all other aspects not specifically referenced above. No City enforcement of “no parking” signs or other such regulatory signs shall be provided for such streets. Access shall be through a standard curb cut.
“Public street” means a way for vehicular traffic, whether designated as a local, transitional, regional/ major thoroughfare, freeway, or other designation, which is improved to City standards, dedicated for general public use and maintained by a public agency. The term “street” shall include alleys as defined above.

“Public way” shall mean any street, channel, viaduct, subway, tunnel, bridge, easement, right-of-way or other way in which a public agency has a right of use.

“Regional Streets” (equivalent to Arterial or Major Streets; includes Parkways and Boulevards) See “Arterial/ Regional Streets.”

“Sidewalk” shall mean a Portland Cement Concrete (PCC) surfaced area for pedestrian usage located within the public or private street right of way or sidewalk easement and included as a standard element of a street section.

“Street” shall include avenues, highways, lanes, alleys, crossings or intersections and courts which have been dedicated and accepted according to the law or which have been in common and undisputed use by the public for a period of not less than five years next preceding, or which have been dedicated to a semi-public use.

“Street right-of-way width” shall mean the shortest distance between the lines delineating the right-of-way of a street.

“Street width” means the distance between the curb faces of a street or edge of pavement where a curb face may be omitted by approval of the City Engineer.

“Transitional Streets” (equivalent to Collector Streets) connect residential neighborhoods to commercial centers and service commercial districts. Streets in this category are the Avenue and the Main Street.

II. General
   A. For purposes of street layout and design, streets shall be classified as:
      Regional
      1. Parkways/ Boulevards/ Major Streets
      2. Industrial Streets
      Transitional
      3. Main Streets, Avenues
      Local
      4. Minor
      5. Neighborhood
      6. Lanes
      7. Alleys
      8. Utility Access Roads, Trails
B. Street design standards shall be used for the design and construction of all private and public streets and for flat-land streets and hillside streets.

C. Deviations from these standards may be granted by approval of the City Engineer.

D. The standards are considered minimum and do not preclude the use of a higher standard.

III. Requirements for Submittal of Improvement plans

The City has requirements for submittal of Improvement Plans and Parcel Maps/Final Maps. Figure 1 and Figure 2 show examples of submittal requirements. Current submittal requirements may be obtained from the Community Development Department.

The City requires a standard “City Engineer Approval Block” on the Improvement Plans. Figure 3 shows the requirements and block to be used.
# CHECKLIST

## IMPROVEMENT PLANS

Please Type or Print

<table>
<thead>
<tr>
<th>LOCATION OF PROJECT (ADDRESS)</th>
<th>ASSESSOR'S PARCEL NUMBER(S)</th>
<th>NO. OF PROPOSED LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME OF PROPOSED PROJECT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPLICANT NAME</td>
<td>ADDRESS</td>
<td></td>
</tr>
<tr>
<td>PROPERTY OWNER'S NAME</td>
<td>ADDRESS</td>
<td></td>
</tr>
<tr>
<td>NAME OF ENGINEER/SURVEYOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Improvement Plans must be prepared by a registered civil engineer.

- [ ] FINAL MAP (Associated with these plans.)
- [ ] PARCEL MAP (Associated with these plans.)
- [ ] NO MAP (Associated with these plans.)

If a rezoning is associated with these improvement plans, has that rezoning been approved by the City Council?
- [ ] YES
- [ ] NO

### NUMBER OF COPIES
- [ ] Six blue line or black line copies (24" x 36") folded into fourths (approximately 9" wide x 24" tall).

## SUBMITTAL REQUIREMENTS

1. [ ] North arrow (to be upward facing if practical) and sheet number (all sheets).
2. [ ] Scale, written and graphic (all sheets).
3. [ ] Location map (with north arrow upward facing).
4. [ ] Benchmark (established City benchmark).
5. [ ] Symbols legend.
6. [ ] Abbreviation legend.
7. [ ] Index to drawings.
8. [ ] General Notes.
9. [ ] Title block (all sheets):
   - [ ] a. Name of engineering firm.
   - [ ] b. Location for R.C.E. seal, signature, and expiration date.
   - [ ] c. City Engineer approval block.
   - [ ] d. Date prepared.
10. [ ] Clear delineation of project boundaries
11. [ ] Nature and dimension of existing and proposed easements:
   - [ ] a. To be in conformance with the final/parcel map.
   - [ ] b. Public and private easements clearly delineated.
12. [ ] Typical section of all streets:
   - [ ] a. Width of street, property lines, easements, curb and sidewalk.
   - [ ] b. Crown and centerline locations.
   - [ ] c. Pavement and base type and thickness

### DATE CHECKLIST RECEIVED

### CHECKLIST RECEIVED BY

### ENGINEERING & INSPECTION FEES:
(Not applicable if this application is accompanied by a Final Map or Parcel Map application.)

<table>
<thead>
<tr>
<th>Date</th>
<th>CHECKLIST RECEIVED BY</th>
<th>RECEIPT NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## STREETS

### Plan View:
- [ ] 13. Centerline and curb line data (submit calculations).
- [ ] 14. Street names, widths.
- [ ] 15. Property lines.
- [ ] 16. Centerline stationing:
  - [ ] a. Conform to existing stationing if previously set.
  - [ ] b. All B.C.'s, E.C.'s, and grade breaks, driveways, etc.
- [ ] 17. Gutter slopes (on curb returns & cul-de-sacs) and flow arrows.
- [ ] 18. Top of curb elevations and stationing at curve points, grade breaks and crest or sag points.
- [ ] 19. Required sidewalk.
- [ ] 20. Monument locations at all E.C.'s, B.C.'s, or P.I.'s and street intersections.

### Profile View:
- [ ] 21. Existing ground surface (100' each direction beyond improvements, 200' for major streets).
- [ ] 22. Profile of improvement:
  - [ ] a. Stationing and elevation at all grade breaks.
  - [ ] b. Vertical curve data.
- [ ] 23. Cross sections every 25 feet for all existing half streets:
  - [ ] a. Stationing.
  - [ ] b. Existing and proposed grades.
  - [ ] c. Existing and proposed cross-slopes.
  - [ ] d. Centerline, existing edge of pavement (conform) and top of curb elevations.

**Figure 1**
STORM DRAINAGE

- Direction of flow arrows.
- Stationing of all drainage structures within streets.
- Specified size/type for all drainage structures.
- Inlet and manhole numbers corresponding to profile view.
- Pipe diameter and length (radius for curved sections).
- Pipe material (may be specified instead in general note or shown on profile).
- Open channels or swales:
  - Flowline elevation at all grade breaks.
  - Slope of swale.
  - Typical section.
  - Existing and proposed improvements clearly delineated as such.

PROFILE VIEW:
- Invert grades/flowlines at all drainage structures.
- Inlet/manhole numbers corresponding to plan view.
- Existing ground surface and finished grade over the line.
- Pipe diameter and length.
- Pipe slopes.
- Utility crossings (possible conflicts).
- Profile open channels (as necessary).

UTILITIES
- Existing and proposed utilities (sewer, water, street lighting, etc.):
  - Location.
  - Type, size and length.
  - Material (can specify in a general note).
  - Clear delineation between public and private utilities.

SEWER PLAN VIEW:
- Manhole/cleanout numbers corresponding to profile view.
- Stationing of structures within street right-of-way.
- Direction of flow arrows.
- Lateral locations (include invert at upstream end of lateral for other than 2% slope or where cover is crucial).

WATER PLAN VIEW (profile only necessary to show resolution of conflicts):
- Applicable City standards (800 series) & depth of pipe note.
- Valve size and locations, valve boxes.
- Fire hydrants and service lateral information.
- Street lighting, striping and signing:
  - Compliance with Standard 600 (general note).
  - Light location, stationing and standard.
  - Pull box location and standard when not located adjacent to light pole.
  - Conduit location.
  - Service point location and standard note.

GRADING
- Existing and finished contours when necessary, include real elevations (and grade elevations at all grade breaks).
- Existing and proposed (if known or required) structures (i.e., houses, wells, septic systems, etc.).
- Flow arrows, drainage plan.
- Existing trees noted as to whether to be saved or removed (base elevations for trees to be saved).
- Typical cross-section and conform grades at property lines.
- Erosion and sediment control measures proposed.
- Provisions for lot to lot drainage.
- Provisions for accepting off-site drainage flows.
- Top of curb elevation and stationing of property lines.
- Slope rounding details for top of cuts.
- Retaining wall details and engineering calculations (if applicable).
- Specify soils engineers control of grading in compliance with Chapter 33 of U.B.C. and Soils Investigation (note on grading plan).
- Provisions for pad drainage when exterior grades are higher.
- Existing structures and dimensions from new lot lines to structures to be saved.

SUPPORTING DATA
- 2 Copies of soils report.
- 6 sets of landscape plans, if required by Conditions of Approval, to be included and numbered with improvement plans:
  - Demonstrate clear vision triangle is provided at all street intersections (even if landscape plans not required).
- Copies of transmittal letters to:
  - PG&E
  - Pacific Bell
  - Sonoma County Water Agency
  - State Department of Fish & Game (as necessary)
  - Cal Trans (as necessary)
  - Other

OFF-SITE EASEMENTS:
- Two copies of all required off-site easements/rights-of-way deeds and R-sheets.
- Two copies of on-site easements/rights-of-way deeds and R-sheets (if map is not included).
- Two copies of all required off-site easements/rights-of-way deeds and R-sheets.
- Copies of any necessary off-site letters of permission.
- Curb and centerline calculations of all streets clearly labeled for checking.
- Structural calculations for all streets (soils report data attached if R>5 is used).
- Creek cross-sections to establish setback per city ordinance.
- Two copies of the Fire Flow Analysis.

I HAVE READ THE FOREGOING AND HAVE SUPPLIED ALl OF THE INFORMATION REQUESTED (OR HAVE PROVIDED A WRITTEN EXPLANATION WHICH ACCOMPANIES THIS CHECKLIST WHICH EXPLAINS ANY OMISSIONS).

SIGNATURE OF APPLICANT OR AUTHORIZED AGENT: X __________________ Date: _______________

IMPROVEMENT PLANS

Figure 2

Page 2 of 2

11
OVERALL DIMENSIONS TO BE 13" x 3"

(NOT SHOWN TO SCALE)

NOTES

1. Block to be located in lower right hand corner of sheet or (alternately) in lower right hand corner of the main field, and shall be oriented to read from the bottom of the sheet.

2. Revisions shall be denoted both within the revision blocks on the title sheet and on the plan by a number circumscribed by a triangle. Revisions are to be numbered consecutively and in chronological order and are considered to be applicable to the entire set of plans, not just an individual sheet (numbering should not "start over" with each sheet).
IV. Street Designs

A. Geometric Standard Cross Sections

<table>
<thead>
<tr>
<th>Item</th>
<th>Minimum Width</th>
<th>Street Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center median</td>
<td>14 feet</td>
<td>Parkway</td>
</tr>
<tr>
<td></td>
<td>12 feet</td>
<td>Boulevard</td>
</tr>
<tr>
<td></td>
<td>12 feet</td>
<td>Avenue, Main Street</td>
</tr>
<tr>
<td>Travel lane</td>
<td>14 feet</td>
<td>Industrial</td>
</tr>
<tr>
<td></td>
<td>11 feet</td>
<td>Parkway, Boulevard</td>
</tr>
<tr>
<td></td>
<td>10 feet</td>
<td>Avenue, Main and Minor Street</td>
</tr>
<tr>
<td></td>
<td>9 feet</td>
<td>Neighborhood Street</td>
</tr>
<tr>
<td></td>
<td>12 feet (two-way)</td>
<td>Lane</td>
</tr>
<tr>
<td>Parking lane or shoulder</td>
<td>10 feet</td>
<td>Industrial</td>
</tr>
<tr>
<td></td>
<td>8 feet</td>
<td>All others except Neighborhood Street</td>
</tr>
<tr>
<td></td>
<td>6 feet</td>
<td>Neighborhood Street</td>
</tr>
<tr>
<td>Curb lane (no Parking or Bike lane)</td>
<td>2 feet increase to curb face</td>
<td>Local streets</td>
</tr>
<tr>
<td></td>
<td>1 foot increase to curb face</td>
<td>All other streets</td>
</tr>
<tr>
<td>Bike lane</td>
<td>5 feet</td>
<td>All streets</td>
</tr>
<tr>
<td>Divider between frontage road and paralleling road</td>
<td>8 feet, curb to curb</td>
<td>All streets</td>
</tr>
</tbody>
</table>

Left turn lanes:

- Double: Two 12 foot lanes
- Single: 10 feet
- 2-Way: 14 feet

Right turn lanes: 12 feet

Curb radius for Cul-de-sac: 45 feet (with parking and no island)
<table>
<thead>
<tr>
<th>Item</th>
<th>Minimum Width/Length</th>
<th>Street Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curb radius for Cul-de-sac (Continued)</td>
<td>45 feet (no parking and with an island)</td>
<td>Cul-de-sac</td>
</tr>
<tr>
<td></td>
<td>40 feet (no parking and no island)</td>
<td>Cul-de-sac</td>
</tr>
<tr>
<td>Note: An island in a cul-de-sac (other than those shown in Standard Drawings), when proposed, will require review and approval by the City Engineer, who shall determine the use of the correct turning radius, compliance with required access for emergency vehicles, and any other required design criteria.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum length from projected curb or edge of pavement line of intersecting street to center of turnaround.</td>
<td>500 feet (or as approved by the City Engineer).</td>
<td>Cul-de-sac</td>
</tr>
<tr>
<td>Length of streets allowed with no Fire Department approved turnaround</td>
<td>150 feet from the projected curb or edge of pavement line of the cross street to end of dead-end street.</td>
<td>All streets</td>
</tr>
<tr>
<td>Planter strip (consistent with space requirements of master street tree plan)</td>
<td>8 feet</td>
<td>Parkway, Boulevard, Avenue</td>
</tr>
<tr>
<td></td>
<td>6 feet</td>
<td>Minor</td>
</tr>
<tr>
<td></td>
<td>5 feet</td>
<td>Neighborhood, Lane, Cul-de-sac bulb</td>
</tr>
<tr>
<td>Sidewalk</td>
<td>5 feet</td>
<td>All Local Streets (*see Lane note below), Avenue</td>
</tr>
<tr>
<td>Sidewalk</td>
<td>6 feet</td>
<td>Parkway, Boulevard</td>
</tr>
<tr>
<td>Sidewalks-contiguous with tree wells (where permitted or required per Standards)</td>
<td>9 feet</td>
<td>Main streets - required on both sides (widen at obstructing locations to provide 4 foot minimum clear sidewalk)</td>
</tr>
<tr>
<td>Sidewalks-contiguous</td>
<td>6 feet</td>
<td>All streets in PD, one-way loop-streets, and hillside or as approved by Planning Commission - required on both sides (widen at obstructing locations to provide 4 foot minimum clear sidewalk).</td>
</tr>
<tr>
<td>Sidewalk -meandering (Where permitted by Standards)</td>
<td>5 feet</td>
<td>Where applicable</td>
</tr>
<tr>
<td>Sidewalk easement</td>
<td>to .5' behind back of sidewalk</td>
<td>All streets where applicable</td>
</tr>
<tr>
<td>Public utility easement</td>
<td>13 feet behind right of way</td>
<td>All streets where required</td>
</tr>
</tbody>
</table>

*Lane requires sidewalk for 5 or more homes, one side minimum. 
Note: Sidewalk one side as approved by Planning Commission.*
B. Access to Public Right-of-Way - Curb Cuts

1. Each vehicular passage way to any parking or loading facility to or across a public right-of-way shall comply with the following requirements:

   a. Curb cuts shall be a maximum of 41 feet in width for non-residential uses, except as otherwise approved by Conditional Use Permit. Minimum of 12 feet for one-way, 24 feet for two-way.

   b. Driveway widths, within residential areas, shall be a minimum of 12 feet in width for single driveways, a minimum of 16 feet for double or triple driveways up to a maximum of 24 feet, except as otherwise approved by Conditional Use Permit.

   c. Wherever feasible, curb cuts serving adjacent uses shall be combined to minimize the number of entrances onto a public right-of-way on any block. No curb island is allowed when it is less than 6 feet between uses.

   d. Only one curb cut may be installed for any parking or loading facility, except that one or more additional curb cuts may be allowed if the City Engineer determines that each additional curb cut is necessary for the efficient operation of the facility and will not significantly reduce street capacity and traffic safety. Twenty feet top to top on the curb island is required between driveways on a single parcel.

   e. Any curb cut in a residential area on a corner lot shall be located at the farthest point possible from the curb return and outside of the sight vision triangle, except as otherwise approved by the City Engineer.

   f. In commercial/industrial area, a minimum of 200 feet required separation between driveway and the intersection of two major, industrial and/or collector streets, except as otherwise approved by City Engineer.

   g. Except as otherwise approved by the City Engineer, curb cuts for any circular or "through" driveway must meet the following requirements.

      (1) The curb cuts for such driveway shall be at least 20 feet apart top to top and a minimum of 10 feet from the side property line.

      (2) The combined width of the curb cuts shall not exceed 50% of the lot frontage.

V. Street Alignment

A. Street alignment shall generally conform to the circulation element of the City's General Plan. Streets shall be aligned with adjacent existing streets by continuations of the centerlines thereof,
or by adjustment by curves, and shall be laid out for the most advantageous development of the entire area.

1. Minimum centerline horizontal curve radii shall be as follows:

   **Regional**
   a. Parkway 500 feet
   b. Boulevard 500 feet

   **Industrial**
   c. Industrial Street 300 feet

   **Transitional**
   d. Main Street 300 feet
   e. Avenue 300 feet

   **Local**
   f. Minor Street 150 feet
   g. Neighborhood Street 100 feet
   h. Lane 90 feet
   i. Alley 40 feet

2. Lesser radii may be used only when sufficient evidence is presented to the City Engineer to show that the radii described above are not practicable. Any deviations require specific City Engineer's approval.

3. Super-elevations are required on curves for the design of all major streets and for any other street with a design speed above 25 miles per hour, except as otherwise approved by the City Engineer.

B. Where necessary to give access to or permit satisfactory future subdivision of adjoining land, streets shall extend to the boundary of the property and resulting dead-end streets greater than 150 feet (measured from the projected curb or edge of pavement line of the cross street) shall have a temporary turnaround. Design of turnarounds other than the standard temporary turnarounds in the standard drawings requires specific approval by the City Engineer.

VI. Street Grades

A. All street grades shown on improvement plans shall refer to the City of Santa Rosa Bench Marks as established in the City of Santa Rosa.

1. All Major/Arterial/Regional and Industrial Streets shall have no grade rate in excess of 7%.

2. Collector/ Transitional, Minor, and Cul-de-sac Streets in the flatland shall have no grade rate in excess of 10%, except as specifically approved by the City Engineer.

3. Collector, Minor and Cul-de-Sac Streets in the hillside shall have no grade rate in excess of 15%, except for 20% point grades or as specifically approved by the City Engineer.
4. Minimum grade rate for all streets shall be 0.5%.

5. The grade of the pavement surface across an intersection shall not be more than 7%, except as approved by the City Engineer.

6. The gradient of each street entering an intersection shall not be more than 7% within a distance of 25 feet from the near curb line of the crossing street, except as approved by the City Engineer.

7. Vertical parabolic curves shall be used to connect grade profiles where the algebraic difference in grade rates exceeds 1% (does not apply at intersecting streets). The length of vertical curve required shall be determined by the following:

<table>
<thead>
<tr>
<th>Minimum Sight Distance</th>
<th>Minimum Length of Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional/ Major &amp; Industrial Streets</td>
<td>350 feet</td>
</tr>
<tr>
<td>Transitional/ Collector Streets</td>
<td>200 feet</td>
</tr>
<tr>
<td>Local Streets</td>
<td>100 feet</td>
</tr>
</tbody>
</table>

8. Minimum cross-slope for all streets shall be 2%. Maximum cross-slopes shall be 5% (offset crown may require tilt section, minimum 2% cross-slope).

9. Maximum cross-slopes in cul-de-sac bulbs shall be 5% in flat-land and 8% in hillside.

10. Exceptions to this section require specific approval by the City Engineer.

VII. Intersections

A. All streets entering upon any given street shall have their centerlines directly opposite each other or separated by at least 200 feet, except as otherwise authorized by the City Engineer. The 16 foot one-way loop street may have a separation of 120 feet if entry and exit is to the same street.

B. All streets shall intersect at right angles, or along radial lines when the intersection is within a curve, and shall have at least 50 feet of centerline tangent adjacent to the intersection, except as specifically approved by the City Engineer.

C. Curb return radii:

| Regional: | Boulevard, Parkway | 35 feet |
| Transitional: | Main Street, Avenue | 25 feet |
| Local: | Minor | 20 feet |
| | Neighborhood Street, Lane | 10-20 feet |

At all intersections, the curb return radius to be utilized will be determined by the highest street classification (e.g., a local-regional street intersection will require 35 foot radius).
VIII. Typical Sections

A. Typical sections for the improvement of streets and alleys shall be shown on the improvement plans. Curb and gutter sections, curb return radii, parking strip widths, and sidewalk widths may be modified where these improvements have been constructed in a portion of a block to other than the sections shown. However, any modifications require the specific approval of the City Engineer.

IX. Pavement Design

Design of the structural section for all streets shall be in accordance with the following criteria:

A. Traffic Index

1. Street classification shall be determined by the City Engineer.

2. Within subdivisions for residential and residential collector streets, use Chart No. 1, “Traffic Index Chart for Flexible Pavements.” For all other streets the T.I. will be determined by the City Engineer.

3. In no instance will the T.I. be less than the following:
   - Regional/Major and Industrial: a minimum T.I. of 9.0
   - Transitional/Collector: a minimum T.I. of 7.0
   - All other streets: a minimum T.I. of 5.0

4. For all street design, use Chart No. 2 (3 sheets), “Structural Design Chart for Flexible Pavements.”

B. Soils Reports

1. Resistance “R” Values

   a. A qualified Soils Engineer shall obtain sufficient soils samples within the proposed street construction to permit determination of the “R” Value of the various materials which lie immediately under the planned structural section. The cost of sampling and testing shall be at the owner’s expense.

   b. The basement soil shall be tested according to California Test 301 “Method for Determination of the Resistance “R” Value of Treated and Untreated Bases, Subbases, and Basement Soils by the Stabilometer: in use by the California Department of Transportation, Transportation Laboratory. Design of the structural section for a particular street will normally be based on the lowest “R” Value material encountered.

   c. If the engineer elects to utilize an “R” Value of 5, then “R” Value tests will not be required.
d. The owner's soil engineer shall submit to the City a Materials report showing the location and elevation of sampling points, "R" Value data, and Expansion Index Tests. The owner’s soils engineer may be required to make a field survey of soil conditions when rough subgrade has been cut to verify data presented to the Materials Report. The cost of any additional sampling and testing shall be at the owner's expense.

2. Active Soils

a. Irrespective of the "R" Value used, an Expansion Index Test shall be required.

b. A soil will be classified as active if the Expansion Index is 50 or greater as measured by the Uniform Building Code Standard 29-2, "Expansion Index Test.”

c. The design of all streets constructed on active soils must include measures such as cut-off walls to prevent pavement structure damage resulting from shrink-swell movement of these soils. The structural section required, in some cases, may be governed by the expansion-shrinkage properties of the soil rather than traffic and soil-bearing criteria.

d. The soils report for any project which contains active soils shall be referred to the City Materials Laboratory. The City Materials Laboratory will review the proposed measures to determine if they will be adequate.

C. Gravel Equivalents

1. Structural sections are to be determined from Chart No. 2 utilizing traffic indexes and known basement soil "R" Values. Gravel equivalents are to be converted into structural sections using gravel equivalents factors (Gf) for the various construction materials as shown on Chart No. 2.

2. All streets shall have a safety factor included in the design. Structural sections using aggregate base shall have the gravel equivalent of the asphalt concrete layer increased by 0.2 feet. Contact City Materials Laboratory for safety factors to be used with other types of base layers.

3. In no instance shall a structural section be less than follows:

<table>
<thead>
<tr>
<th>Type of Street</th>
<th>Gravel Equivalent</th>
</tr>
</thead>
</table>
| Regional/Major and Industrial Streets | 0.45 feet asphalt concrete  
0.80 feet Class II aggregate base     |
| Transitional/Collector Streets        | 0.35 feet asphalt concrete  
0.60 feet Class II aggregate base     |
| Local Streets                         | 0.25 feet asphalt concrete  
0.50 feet Class II aggregate base     |
D. Improvement Plan Notation

1. All improvement plans shall include the design “R” Value, Expansion Index, and the Traffic Index. This information shall be included in the typical section or in a note or table on the same sheet as the typical sections.
CHART FOR ESTIMATION OF TRAFFIC INDEX
USING A HOUSE COUNT

<table>
<thead>
<tr>
<th>TRAFFIC INDEX (20-YEAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

NUMBER OF HOUSES SERVED

* T.I. = 3.091 (HOUSES) 0.1871 MINIMUM T.I. = 5.0

NOTES: For use only within subdivisions for residential and residential collector streets. For all other streets, the T.I. will be determined by the City Engineer. Chart is based on a 20-year design life.

CHART I.
Traffic Index Chart for Flexible Pavements
Structural Design Chart
For Flexible Pavements

Equation:

\[ G.E. = 0.0032 \times (T.I.) \times (100 - R) \]

- G.E. = Gravel Equivalent
- T.I. = Traffic Index
- R. = Resistance Value

Chart 2.
Structural Design Chart for Flexible Pavements (1 of 3)
\[ G_{f_{AC}} = 2.5 \left( \frac{5.14}{T.I.} \right)^{0.5} \]

\[ G_{f_{AC}} \text{ SHALL NOT EXCEED 2.5.} \]

\[ \text{USE ONLY FOR A.C. SURFACING COURSE.} \]

**RELATIONSHIP BETWEEN GRAVEL EQUIVALENT FACTOR FOR ASPHALT CONCRETE AND TRAFFIC INDEX**

**CHART 2. (2 of 3)**
## Gravel Equivalent Factors

<table>
<thead>
<tr>
<th>Material</th>
<th>Gravel Equivalent Factor (GF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean Concrete Base (LCB)</td>
<td>1.9</td>
</tr>
<tr>
<td>Class A Cement Treated Base (CTB)</td>
<td>1.7</td>
</tr>
<tr>
<td>Asphalt Treated Permeable Material (ATPM)</td>
<td>1.4</td>
</tr>
<tr>
<td>Open Graded Asphalt Concrete (OGAC)</td>
<td>1.4</td>
</tr>
<tr>
<td>Class B Cement Treated Base (CTB)</td>
<td>1.2</td>
</tr>
<tr>
<td>Asphalt Treated Base</td>
<td>1.2</td>
</tr>
<tr>
<td>Soil Cement</td>
<td>1.2</td>
</tr>
<tr>
<td>Aggregate Base</td>
<td>1.1</td>
</tr>
<tr>
<td>Aggregate Subbase</td>
<td>1.0</td>
</tr>
<tr>
<td>Lime Treated Base (LTB)</td>
<td>$0.9 + \text{(unconfined compressive strength in psi ÷ 1000)}$</td>
</tr>
</tbody>
</table>

### Gravel Equivalents of Full Depth Asphalt Concrete

<table>
<thead>
<tr>
<th>AC Thickness (Fl.)</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.55</td>
<td>1.30</td>
<td>1.20</td>
<td>1.12</td>
<td>1.05</td>
<td>1.00</td>
<td>0.95</td>
<td>0.92</td>
<td>0.87</td>
<td>0.85</td>
</tr>
<tr>
<td>0.60</td>
<td>1.44</td>
<td>1.33</td>
<td>1.26</td>
<td>1.17</td>
<td>1.10</td>
<td>1.06</td>
<td>1.02</td>
<td>0.97</td>
<td>0.94</td>
</tr>
<tr>
<td>0.65</td>
<td>1.48</td>
<td>1.38</td>
<td>1.30</td>
<td>1.23</td>
<td>1.17</td>
<td>1.13</td>
<td>1.09</td>
<td>1.05</td>
<td>1.02</td>
</tr>
<tr>
<td>0.70</td>
<td>1.79</td>
<td>1.65</td>
<td>1.54</td>
<td>1.45</td>
<td>1.37</td>
<td>1.31</td>
<td>1.26</td>
<td>1.20</td>
<td>1.17</td>
</tr>
<tr>
<td>0.75</td>
<td>1.97</td>
<td>1.82</td>
<td>1.70</td>
<td>1.60</td>
<td>1.52</td>
<td>1.45</td>
<td>1.39</td>
<td>1.33</td>
<td>1.29</td>
</tr>
<tr>
<td>0.80</td>
<td>1.99</td>
<td>1.86</td>
<td>1.75</td>
<td>1.66</td>
<td>1.59</td>
<td>1.53</td>
<td>1.46</td>
<td>1.41</td>
<td>1.36</td>
</tr>
<tr>
<td>0.85</td>
<td>2.14</td>
<td>2.00</td>
<td>1.88</td>
<td>1.78</td>
<td>1.70</td>
<td>1.64</td>
<td>1.58</td>
<td>1.52</td>
<td>1.47</td>
</tr>
<tr>
<td>0.90</td>
<td>2.31</td>
<td>2.17</td>
<td>2.04</td>
<td>1.93</td>
<td>1.84</td>
<td>1.77</td>
<td>1.71</td>
<td>1.65</td>
<td>1.60</td>
</tr>
<tr>
<td>0.95</td>
<td>2.35</td>
<td>2.21</td>
<td>2.09</td>
<td>2.00</td>
<td>1.92</td>
<td>1.85</td>
<td>1.78</td>
<td>1.72</td>
<td>1.66</td>
</tr>
<tr>
<td>1.00</td>
<td>2.51</td>
<td>2.36</td>
<td>2.23</td>
<td>2.13</td>
<td>2.05</td>
<td>2.00</td>
<td>1.96</td>
<td>1.90</td>
<td>1.85</td>
</tr>
<tr>
<td>1.05</td>
<td>2.67</td>
<td>2.51</td>
<td>2.38</td>
<td>2.27</td>
<td>2.18</td>
<td>2.10</td>
<td>2.03</td>
<td>2.16</td>
<td>2.10</td>
</tr>
<tr>
<td>1.10</td>
<td>2.69</td>
<td>2.54</td>
<td>2.42</td>
<td>2.33</td>
<td>2.25</td>
<td>2.18</td>
<td>2.11</td>
<td>2.05</td>
<td>2.00</td>
</tr>
<tr>
<td>1.15</td>
<td>2.68</td>
<td>2.56</td>
<td>2.46</td>
<td>2.38</td>
<td>2.30</td>
<td>2.23</td>
<td>2.16</td>
<td>2.09</td>
<td>2.03</td>
</tr>
<tr>
<td>1.20</td>
<td>2.82</td>
<td>2.70</td>
<td>2.59</td>
<td>2.52</td>
<td>2.45</td>
<td>2.38</td>
<td>2.31</td>
<td>2.24</td>
<td>2.18</td>
</tr>
<tr>
<td>1.25</td>
<td>2.98</td>
<td>2.85</td>
<td>2.74</td>
<td>2.62</td>
<td>2.54</td>
<td>2.47</td>
<td>2.40</td>
<td>2.33</td>
<td>2.27</td>
</tr>
<tr>
<td>1.30</td>
<td>3.15</td>
<td>3.00</td>
<td>2.89</td>
<td>2.76</td>
<td>2.66</td>
<td>2.60</td>
<td>2.54</td>
<td>2.48</td>
<td>2.42</td>
</tr>
<tr>
<td>1.35</td>
<td>3.16</td>
<td>3.03</td>
<td>2.90</td>
<td>2.81</td>
<td>2.72</td>
<td>2.66</td>
<td>2.60</td>
<td>2.54</td>
<td>2.48</td>
</tr>
<tr>
<td>1.40</td>
<td>3.31</td>
<td>3.18</td>
<td>3.04</td>
<td>2.95</td>
<td>2.86</td>
<td>2.80</td>
<td>2.74</td>
<td>2.68</td>
<td>2.62</td>
</tr>
<tr>
<td>1.45</td>
<td>3.47</td>
<td>3.33</td>
<td>3.18</td>
<td>3.09</td>
<td>3.00</td>
<td>2.95</td>
<td>2.89</td>
<td>2.84</td>
<td>2.78</td>
</tr>
<tr>
<td>1.50</td>
<td>3.48</td>
<td>3.32</td>
<td>3.22</td>
<td>3.17</td>
<td>3.08</td>
<td>3.03</td>
<td>2.98</td>
<td>2.93</td>
<td>2.88</td>
</tr>
<tr>
<td>1.55</td>
<td>3.62</td>
<td>3.46</td>
<td>3.36</td>
<td>3.26</td>
<td>3.17</td>
<td>3.12</td>
<td>3.07</td>
<td>3.02</td>
<td>2.97</td>
</tr>
<tr>
<td>1.60</td>
<td>3.77</td>
<td>3.61</td>
<td>3.50</td>
<td>3.40</td>
<td>3.32</td>
<td>3.27</td>
<td>3.22</td>
<td>3.17</td>
<td>3.12</td>
</tr>
<tr>
<td>1.65</td>
<td>3.76</td>
<td>3.65</td>
<td>3.55</td>
<td>3.45</td>
<td>3.36</td>
<td>3.31</td>
<td>3.26</td>
<td>3.21</td>
<td>3.16</td>
</tr>
<tr>
<td>1.70</td>
<td>3.90</td>
<td>3.76</td>
<td>3.66</td>
<td>3.57</td>
<td>3.48</td>
<td>3.43</td>
<td>3.38</td>
<td>3.33</td>
<td>3.28</td>
</tr>
<tr>
<td>1.75</td>
<td>4.06</td>
<td>3.94</td>
<td>3.84</td>
<td>3.75</td>
<td>3.66</td>
<td>3.61</td>
<td>3.56</td>
<td>3.51</td>
<td>3.46</td>
</tr>
</tbody>
</table>

*Safety Factor of 0.10 to be added to total GE before entering TI Column.

R-value: Class B CTB = 80  ASB Class 1 = 80  
       AB = 78       ASB Class 2 = 70  
       ASB Class 3 = 40  
       ASB Class 4 = 50

### Chart 2
(3 of 3)
Requirements for Emergency Access During Construction

A. Subgrade Conditions

<table>
<thead>
<tr>
<th>Season</th>
<th>Good Subgrade</th>
<th>Poor Subgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
<td>Excavated and drained subgrade</td>
<td>Excavated and drained subgrade</td>
</tr>
<tr>
<td>April 1 - September 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter</td>
<td>6 inches rock</td>
<td>6 inches rock and fabric</td>
</tr>
<tr>
<td>October 1 - March 31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. For structures with a ridge line of at least 35 feet above adjacent rough fire access grade, or for structures with 3 or more stories, 1.5 inches of asphalt base over 4 inches of aggregate base shall be provided in all proposed and approved fire access areas.

2. Winter conditions shall take effect and be enforced by the City Engineer on October 1. The City Engineer shall have the authority to move this date up to as early as September 1, depending on the particular season’s rainfall and projections.

3. Subgrade defined as native soil at bottom of street section (base and paving), excavated to the approximate lines and grades shown on the project grading plan, and provided with a discharge for collected water, as approved by the City Engineer.

4. Base shall be Class II aggregate base or alternative recommended by the soils engineer and approved by the City Engineer.

5. Poor subgrade defined as “R” Value of 10 or less.

6. Base shall be placed only on an unyielding excavated and drained subgrade, and to be compacted to at least 90% relative compaction.

7. Fabric to be a ground stabilization fabric such as Mirafi 600X or equivalent.
City of Santa Rosa
HIERARCHY

I. Local Streets

Alley
Way/Loop (one way)
Lane
Neighborhood Street
Minor Street:
Interim
Rural/Hillside

STD under review
See STD 200 B
See STD 200 C
See STD 200 D
See STD 200 E
See STD 200 K
See STD 200 L

II. Transitional Streets

Avenue
Main Street

See STD 200 F
See STD 200 G

III. Industrial Street

Industrial Street

See STD 200 H

IV. Regional Streets

Boulevard
Parkway

See STD 200 I
See STD 200 J
1. Streets are for access to no more than 10 residential units.
2. Street length shall not exceed 200'.
3. Streets shall have contiguous sidewalks on both sides unless otherwise approved (minimum 2' concrete paving required for non-sidewalk side).
4. 16' Streets shall connect to other streets not less than 36' in width.
5. No flag lots shall connect to 16' streets.
6. Minimum distance of garage face to opposite curb face shall be 42'.
7. Street furniture and any other obstructions shall be held back 2' on both sides of streets to allow a total 20' clearance for fire access.
8. Use in special designated fire hazard areas as shown on the "Fire Hazard Zone Map" (on file at the City Clerk's Office) shall be subject to the approval of the Fire Department and the City Engineer.
9. Fire hydrants shall be located at each intersection and shall keep 2' clear from face of curb to hydrant (varies from STD 857).
10. Street lights shall be placed to allow 2' clearance from face of curb (varies from STD 612 & 613).

NOTE: THE USE OF THIS STREET WIDTH WILL ROUTINELY IMPOSE SPECIAL UTILITY DESIGN REQUIREMENTS, INCLUDING SPECIAL PIPE REQUIREMENTS FOR WATER AND SEWER IF LESS THAN 10' SEPARATION IS PROPOSED. PROPOSED USE OF THIS STREET ON A TENTATIVE MAP MAY REQUIRE DESIGN DETAIL BEYOND NORMAL SCOPE OF TENTATIVE MAPS.
LANE

26' right-of-way for public

5'  5'  16'  6''

No Parking

two-way

30' right-of-way for public

5'  5'  8'  12'  6''

Parking on One Side

5'  5'

P

two-way

P

1. For through streets, length shall not exceed 300'. For dead end streets, clear width of the lane shall remain at 20' to a point that all points of the 1st floor walls are within 150' of that point.
2. Maximum 10 residential units.
3. No parking shall be allowed for the first 30 feet measured from curb return at the intersection.
4. Adequate backup space is required for garage and perpendicular parking.
5. Non-through Lanes shall provide passenger vehicle turn-around.
6. No publicly maintained manholes shall be allowed on streets less than 20' wide.
7. Streets shall contain residential units only.
8. Lanes shall connect to streets that provide minimum 20 feet clear width.
9. If both water and sewer utilities are contained in the street they shall be private for the no-parking Lane configuration.
10. If Lane is private, access shall be through a Standard 250 A, C, or D curb cut.
11. No sidewalk for up to 4 homes, and 5 feet sidewalk one side minimum for 5 to 10 homes. Right-of-way ends at front of sidewalk.

NOTE: THE USE OF THIS STREET WIDTH WILL ROUTINELY IMPOSE SPECIAL UTILITY DESIGN REQUIREMENTS, INCLUDING SPECIAL PIPE REQUIREMENTS FOR WATER AND SEWER IF LESS THAN 10' SEPARATION IS PROPOSED. PROPOSED USE OF THIS STREET ON A TENTATIVE MAP MAY REQUIRE DESIGN DETAIL BEYOND NORMAL SCOPE OF TENTATIVE MAPS.
NEIGHBORHOOD STREET
PARKING BOTH SIDES

40' Right of Way

30' Minimum

5' 5' 6' 9' 9' 6' 5' 5'

6"
P T T P

C

THIS STANDARD MAY BE USED ONLY WHEN ALL OF THE FOLLOWING CONDITIONS ARE MET:

1. Vehicular speeds shall not exceed 25 miles per hour (MPH).
2. Average daily trips (ADT) shall not exceed 1000.
3. Maximum Street length is 1400 feet before intersecting with a street that provides 20 feet clear width.
4. Streets shall have access from two directions (no cul-de-sacs).
5. Streets may neck down to 20' at intersections.
6. Corners may have a 10' radius if without a neck, and a 20' radius if with a neck.
7. Streets shall contain residential units only.
8. This standard shall not apply in special designated fire hazardous areas as shown on the "Very High Fire Severity Zone Map" on file at the City Clerk's office.
9. Sidewalk width is 5 feet and planter strip width is 5 feet from back of curb to front of sidewalk.

CITY OF SANTA ROSA
NEIGHBORHOOD STREET

Scale: NONE Date: JAN 2004

Approval: This standard has been adopted at the direction of the City Council (Resolution No. 25865).

FILE NO.
STD.- 200D
1. Travel lanes are increased to 12 feet when they are adjacent to curbs (e.g., curb to curb width is 24 feet for no parking and 30 feet for parking on one side only).

2. Sidewalk width is 5 feet and planter strip width is 6 feet measured from back of curb to front of sidewalk.

3. See pages 16 through 17 for street alignment, sight distance, and curb return radii.
AVENUE

52' Right of Way

5'  8'  8'  10'  10'  8'  8'  5'
|   |   |   |   |   |   |   |   |
| P |   |   | T |   |   |   | T |

NO MEDIAN OR BIKE LANES

78' Right-of-Way

5'  8'  8'  5'  12'  12'  12'  5'  8'  8'  5'
|   |   |   | B | T | Median | T | B |   |

WITH MEDIAN AND BIKE LANES

1. Travel lanes are increased to 12 feet when they are adjacent to curbs
2. Sidewalk width is 5 feet and planter strip width is 8 feet, measured from back of curb to front of sidewalk.
3. See pages 16 through 17 for street alignment, sight distance, and curb return radii.
4. Parking width shown is for parallel parking. Angled parking, if allowed, would require increased parking lane width.
1. Travel lanes are increased to 12 feet when they are adjacent to curbs.
2. Sidewalk width is 9.5 to 12 feet with 4 feet by 4 feet tree wells. Right-of-way extends .5 feet beyond the sidewalk or to building face whichever is less.
3. Public Utility easement is typically contained within the sidewalk.
4. See pages 16 through 17 for street alignment, sight distance, and curb return radii.
1. Sidewalk width is 5 feet and planter strip width is 8 feet measured from back of curb to front of sidewalk.
2. See pages 16 through 17 for street alignment, sight distance, and curb return radii.
BOULEVARD

56' Right of Way

6' 8' 8' 12' 12' 8' 8' 6'

P T T P

SHOWN WITH 2 LANES, NO MEDIAN, OR BIKE LANES

100' Right of Way

6' 8' 8' 5' 11' 12' 12' 11' 5' 8' 8' 6'

P B T T Median T T T B P 6'

SHOWN WITH 4 LANES, A MEDIAN AND BIKE LANES

1. Travel lanes are 12 feet unless adjacent to a bike lane. Alternate lane configuration is 3 travel lanes — one in one direction and 2 in the opposite. The 2 lane configuration with a median is the same as the 4 lane configuration but without the 11' travel lanes.

2. Sidewalk width is 6 feet and planter strip width is 8 feet measured from the back of curb to front of sidewalk.

3. See pages 16 through 17 for street alignment, sight distance, and curb return radii.

CITY OF SANTA ROSA
BOULEVARD

Scale: NONE    Date: JAN 2004
DIM. SCA    CHK.
FILE NO.
STD. - 2001
1. Travel lanes are increased to 12 feet when they are adjacent to curbs. The 2 lane configuration with a median is the same as the 4 lane configuration shown above, but without the 2 - 11' travel lanes.
2. Sidewalk width is 6 feet and planter strip width is 8 feet measured from back of curb to front of sidewalk.
3. See pages 16 through 17 for street alignment, sight distance, and curb return radii.
4. No parking is allowed.
1. Full improvements are required if contiguous lots are improved (curb and gutter minimum).
2. Structural pavement section may not be reduced (depth dependent on traffic index).
3. For use in rural unimproved areas and only with the specific approval of the City Engineer.
4. A cash—in—lieu fee shall be paid prior to improvement plans being signed to cover the cost of constructing remaining improvements when adjoining properties are developed or a City project improves the street.
5. Existing conditions may alter the design (no ped path, no AC berm, wider travelways etc), as approved by the City Engineer.
6. Application:
   a) in—fill in unimproved areas
   b) no parking
   c) on existing streets only (example: Lance Drive between Jennings and College).
7. Street lighting shall comply with City’s minimum lighting requirements.
8. Concentrated drainage flows shall be conveyed through a temporary inlet to drainage swales.
9. Future right—of—way shown above is to be irrevocably offered and accepted when ultimate improvements are constructed.
10. See standard 252 for driveway access on interim streets.
1. To be used in cases where a standard street section would require excessive grading and/or tree and natural features removal.
2. Cross sectional transitions shall not allow surface flows to be re-directed across the street.
3. 12 foot travel lanes may be reduced (for short distances) to 10' if required by site topography to avoid trees, rock outcropping, excessive grading, etc with specific approval of the City Engineer.
4. No parking allowed.
5. Sidewalk may be required.
6. Alternate means of edge drainage control (other than standard curb and gutter) may be utilized under the following conditions:
   a) existing contiguous improvements make curb and gutter impractical or undesirable,
   b) the City desires to preserve the existing rural nature of street (example: Alto Vista Lane between Montecito and Pine Rock Place, and Newanga Avenue by Spring Lake Park).
   c) street does not function as major design element of drainage control (minor flows only), and
   d) only with the specific approval of the City Engineer.
7. See Standard 252 for driveway access across 3:1 drainage swale alternates.

ALTERNATE EDGE DRAINAGE CONTROL (REQUIRES SPECIFIC APPROVAL OF CITY ENGINEER):

CITY OF SANTA ROSA
RURAL/HILLSIDE STREET
NO PARKING

Scale: NONE  Date: JAN 2004
Dwg. SCA  CHK.  APPROVED  FILE NO.
STD.– 200L
NOTES:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
Standard under review.
Standard under review.
APPLICATION:
PARKING ALLOWED
NO ISLANDS

NOTE:
CENTERLINE CURVE RADIUS DOWN TO 100' MAY
BE UTILIZED AT BEGINNING OF CUL-DE-SAC.
DESIGN SHALL CONFORM TO THESE
REQUIREMENTS EXCEPT AS OTHERWISE
APPROVED BY THE CITY ENGINEER.

CITY OF SANTA ROSA
CUL-DE-SAC
45' RADIUS

Scale: NONE     Date: JAN 2004
DIM. SCA     CHK.
FILE NO.     STD.- 203A
Monument located 3 to 5 ft. from island face of curb on centerline.

APPLICATION:
NO PARKING
MAXIMUM ISLAND DIMENSIONS AS SHOWN.

NOTE:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
40' Radius Bulb

RAD. PT.

RAD. = 100'

RAD. = 100'

APPLICATION:
NO PARKING
NO ISLANDS

NOTE:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

Face of Curb (typ.)

Varies Varies

CITY OF SANTA ROSA
CUL-DE-SAC
40' RADIUS

Scale: NONE    Date: JAN 2004

DIM. SCA CHK. APPROVED FILE NO. STD. - 203C
HILLSIDE ONLY

NOTES:

1. USE OF THIS CUL-DE-SAC SHALL BE ONLY WITH THE SPECIFIC APPROVAL OF THE CITY ENGINEER.

2. USE OF THIS CUL-DE-SAC SHALL BE BASED UPON DOCUMENTED DEMONSTRATION, BY THE APPLICANT, TO THE SATISFACTION OF THE CITY ENGINEER, THAT VEHICLES AS DETERMINED BY THE CITY ENGINEER CAN SAFELY NEGOTIATE THE CUL-DE-SAC.

3. USE OF THIS CUL-DE-SAC SHALL BE BASED UPON DOCUMENTED DEMONSTRATION BY THE APPLICANT AND TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE USE OF A SMALLER THAN STANDARD CUL-DE-SAC IS NECESSARY BECAUSE OF THE SITE TOPOGRAPHY.

4. APPLICATION:
   - NO PARKING
   - NO ISLANDS
   - HILLSIDE ONLY

THIS IS NOT A DESIGN STANDARD

CITY OF SANTA ROSA
SPECIAL CUL-DE-SAC
36' RADIUS

Scale: NONE Date: JAN 2004
DRAWN: SCA CHK.
SPECIAL DRAWING #203D
NOTES:

1. USE OF THIS CUL-DE-SAC SHALL BE ONLY WITH THE SPECIFIC APPROVAL OF THE CITY ENGINEER.

2. USE OF THIS CUL-DE-SAC SHALL BE BASED UPON DOCUMENTED DEMONSTRATION, BY THE APPLICANT, TO THE SATISFACTION OF THE CITY ENGINEER, THAT VEHICLES AS DETERMINED BY THE CITY ENGINEER CAN SAFELY NEGOTIATE THE CUL-DE-SAC.

3. USE OF THIS CUL-DE-SAC SHALL BE BASED UPON DOCUMENTED DEMONSTRATION BY THE APPLICANT AND TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE USE OF A SMALLER THAN STANDARD CUL-DE-SAC IS NECESSARY BECAUSE OF THE SITE TOPOGRAPHY.

4. APPLICATION:
   - NO PARKING
   - MAXIMUM ISLAND DIMENSIONS AS SHOWN.
   - HILLSIDE ONLY
NOTES:

1. Minimum $\Delta = 60^\circ$, Maximum $\Delta = 100^\circ$.

2. Minimum curb longitudinal slope = 0.5%.

3. Crown line lies midway between outside and inside returns, along the line radial to the inside return.

4. Crown line elevation to be shown on the plans.

5. Design shall conform to these requirements except as otherwise approved by the City Engineer.

6. See City Standard 204B for alternate knuckle designs.

CITY OF SANTA ROSA

STANDARD STREET KNUCKLE
RESIDENTIAL & MINOR
STREETS

Scale: NONE Date: JAN 2004

Director of Public Works

FILE NO. STD.- 204A
35' radius return
16' one-way street with minimum knuckle
Outside face of curb radius is 35' from a radius point offset 25' from centerline intersection. No parking allowed.

35' radius return
Private 20' street with minimum knuckle
Outside face of curb radius is 45' from a radius point offset 25' from centerline intersection. No parking allowed.

24' 45' RAD.
24 ft street with minimum knuckle
Outside face of curb radius is 45' from a radius point offset 25' from centerline intersection. No parking allowed.

30' 45' RAD.
30' radius return
Standard 30' street with minimum knuckle.
Outside face of curb radius is 45' from a radius point offset 25' from centerline intersection. Parking allowed.

36' 45' RAD
30' radius return
Standard 36' street with minimum knuckle.
Outside face of curb radius is 45' from a radius point offset 25' from centerline intersection. Parking allowed.

NOTE: Use of these knuckle alternatives (radii offset greater than 10') requires the use of double yellow raised pavement markers following the crown line from the beginning of the outside curve to the end of the outside curve.

CITY OF SANTA ROSA

KNUCKLE ALTERNATIVES

Scale: NONE Date: JAN 2004
Dwg. SCA: FILE NO. STD.-204 B
DRK. APPROVED
NOTES
1. Emergency turnout to be used as approved by the City Engineer.
2. Design shall conform to these requirements except as otherwise approved by the City Engineer.
3. Valley gutter shall not be used for drainage except as otherwise approved by the City Engineer.

CITY OF SANTA ROSA
EMERGENCY
VEHICLE TURNOUT

Scale: NONE  Date: JAN 2004
DIM. SCA CHK.  FILE NO.  STD.- 205

[Signature]
Street Barricade
Per City STD-211
No Parking sign
(typ.)

Through Street sign (shown in this Std.)

45' Radius

TEMPORARY HAMMERHEAD

Red Curb
20' Rad.

20' Rad.

V

TEMPORARY CUL-DE-SAC

NOTES:
1. Design shall conform to these requirements except as otherwise approved approved by the City Engineer.
2. Sign shall be reflectorized as per Caltrans standard sheeting black on white metal sign with 4" letters. See City Engineer for details.
3. If W is less than 30' on temporary hammerhead, legs shall be 40' instead of 30'.
4. For temporary hammerhead driveway cut, apron and concrete slab are acceptable if consistent with template above.
5. Temporary turnaround shall be used only when specifically approved by the City Engineer.

FUTURE THROUGH STREET.
EXTENDED STREET SUBJECT TO INCREASED TRAFFIC

4" x 4"
RDW. POST

THROUGH STREET SIGN

CITY OF SANTA ROSA
TEMPORARY TURNAROUND FOR FUTURE ROAD

Scale: NONE
Date: JAN 2004

FILE NO. STD.- 206
MAIN STREET BEING RECONSTRUCTED

LIMITS OF MAIN STREET BASE MATERIAL

GUTTER LIP

FACE OF CURB

Conform at B.C.R. unless otherwise directed by the City Engineer.

PLAN

sawcut

New Paving Section

Conform Line

Base Material

Existing paving & base unknown

8" Class 2 aggregate base (min.)

Main Street       Side Street

SECTION F–F

NOTES:
Design shall conform to these requirements except as otherwise approved by the City Engineer.
Side street A.C. thickness shall match main street paving thickness.
NOTES:
1. Design shall conform to these requirements except as otherwise approved by the City Engineer.
2. Edge Grinding shall be 1" ± 1/4".
NOTES:

1. Design shall conform to these requirements except as otherwise approved by the City Engineer.
NOTES:

1. Design shall conform to these requirements except as otherwise approved by the City Engineer.
NOTES:
1. POSTS SHALL BE PAINTED ONE COAT OF WHITE PRIMER, AND ONE COAT OF WHITE ENAMEL AFTER ERECTION.
2. ALL PORTIONS OF POSTS TO BE INSTALLED BELOW FINISH GRADE SHALL BE TREATED WITH A WOOD PRESERVATIVE APPROVED BY THE CITY ENGINEER.
3. ON DEAD END STREETS, INSTALL TYPE W21 REFLECTORS AT CITY ENGINEER'S DIRECTION.
4. ALL RAIL ELEMENTS TO BE HOT DIPPED GALV.
5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY CITY ENGR.
NOTE:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
NOTES

1. Parking Bay detail to be used only when specifically authorized by the City Engineer or Planning Commission.

2. Design shall conform to these requirements except as otherwise approved by the City Engineer.

CITY OF SANTA ROSA

PARKING BAY

Scale: NONE Date: JAN 2004

DRAWN SCA CHK. FILE NO. STD.- 213

Approved by:
Standard under review.
BACKFILL AND SURFACING

See Notes 2 & 3

Finish Grade

Varies, see table & Note 1

See Note 1

Trench
Backfill at
90% RC

Pipe bedding
See Sheet 3

12" Min
24" Min

Trench AC Paving Table

<table>
<thead>
<tr>
<th>Street Type</th>
<th>Min AC Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential/Local</td>
<td>0.25'</td>
</tr>
<tr>
<td>Collector/Transitional</td>
<td>0.35'</td>
</tr>
<tr>
<td>Arterial/Regional/Industrial</td>
<td>0.45'</td>
</tr>
</tbody>
</table>

NOTES:

1. The street structural section shall be AC (Asphalt Concrete) (see table for minimum AC thickness) on new 12" thick Class 2 AB (Aggregate Base) at 95% RC (Relative Compaction), or 6" thick ACB (Asphalt Concrete Base) at 97% RC per Section 39 of the City Specifications, or as shown on the plans.

2. Neatly cut pavement after trench is backfilled to subgrade.

ADDITIONAL PAVEMENT REMOVAL:
Remove additional pavement to a painted lane stripe, a lip of gutter, a curb, an existing pavement patch, or an edge of the pavement if such street feature is within 3 feet of the final saw cut.

3. Full tack coat coverage on all vertical surfaces.
NOTE:
The Small Hole dimensions must be less than 6’ W x 6’ L x 6’ D. If any dimension is greater than 6’ or the trench is not backfilled on the same day of excavation, use trench backfill and surfacing detail (Sheet 1).

CITY OF SANTA ROSA
NARROW TRENCH AND SMALL HOLE DETAIL

Sheet 2 of 6
Finish Grade  
\[ CL_2 \ AB \quad 95\% \ RC \]  
\[ 2 \text{ lifts} \]  
\[ 12" \]  
Trench backfill  
\[ 90\% \ RC \]  
Pipe bedding  

Subgrade  
\[ 6" \]  
Trench backfill  
\[ 90\% \ RC \]  
Pipe bedding  

Natural ground  
\[ 30" \]  
Native material removed from upper 30"  
\[ 85\% \ RC \]  

Shoulder areas  
Streets under construction  
Public Utility Easement (Outside street area)  
Public Utility Easement (Undeveloped areas)

**TRENCH BACKFILL**

Pipe bedding 90% RC  
See Note 3  
3" Min Note 2

Bedding cover  
9" to 15"  

Geotextile, Mirafi 140NC or equal required for drain rock greater than 9" in thickness

**STABLE TRENCH**  
**UNSTABLE TRENCH**

**PIPE BEDDING**

**NOTES:**

1. Relative compaction is designated RC.
2. 1/4 Pipe O.D. Min when excavation is in rocky ground.
3. Pipe diameter 18" or less: 6" Min, 9" Max Pipe diameter greater than 18": 9" Min, 12" Max  
See table below for HDPE pipe trench widths.

---

**TRENCH WIDTH FOR HDPE PIPE**

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Trench Width (Min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15&quot;</td>
<td>36&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>48&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>54&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>60&quot;</td>
</tr>
<tr>
<td>36&quot;</td>
<td>72&quot;</td>
</tr>
</tbody>
</table>

---

**CITY OF SANTA ROSA**

**TRENCH BACKFILL AND PIPE BEDDING DETAIL**

<table>
<thead>
<tr>
<th>SCALE: NONE</th>
<th>DATE: MAY 09</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWN: CDA</td>
<td>APPROVED</td>
</tr>
<tr>
<td>CHK: DM</td>
<td>STD.-215</td>
</tr>
</tbody>
</table>
NEW STREET UNDER CONSTRUCTION

Notes:

1. Rocks exceeding 6" shall not be permitted within the trench section.

2. The maximum depth of native backfill material shall not exceed 10 feet, unless the street is excavated a uniform depth from face of curb to face of curb.

3. Embankment construction methods shall be used. All slopes must be keyed—in a minimum of one foot as the trench is backfilled.

4. The minimum equipment required for compaction of native backfill material shall consist of a sheepsfoot vibratory roller with a minimum drum width of 48", a minimum gross weight of 4600 lbs, or must meet approval of the City Engineer.

5. The contractor shall be responsible for coordinating with the private soils engineer and the City inspector 48 hours prior to excavation.

6. The private soils engineer shall provide testing and observations on a FULL TIME basis during ALL native backfilling operations. The private soils engineer is responsible for the verification of all native backfill work including compaction and uniform moisture conditioning, and that moisture content is above optimum moisture to the extent appropriate for the native material being used.

7. In streets where native trench backfill is used, treated (lime, cement, flyash, etc.) subgrade shall not be used as part of the structural section.
MATERIAL SPECIFICATIONS

DRAIN ROCK may be used as bedding under pipe for slopes less than 8%. DRAIN ROCK shall be 100% crushed and shall conform to the following grading:

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1/2&quot;</td>
<td>1&quot;</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td></td>
<td>95-100</td>
<td>0-30</td>
</tr>
<tr>
<td></td>
<td>#4</td>
<td>0-4</td>
</tr>
</tbody>
</table>

PIPE BEDDING and TRENCH BACKFILL shall be free of asphaltic material.

PIPE BEDDING for slopes less than or equal to 8% shall have a minimum sand equivalent value of 30 and shall conform to the following grading:

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>3/4&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>100</td>
<td>90-100</td>
<td>65-100</td>
</tr>
<tr>
<td>#4</td>
<td>#200</td>
<td>30-100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-15</td>
</tr>
</tbody>
</table>

PIPE BEDDING for slopes greater than 8% shall have a minimum sand equivalent of 30 and shall conform to the following grading:

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>3/4&quot;</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>100</td>
<td>90-100</td>
<td>65-100</td>
</tr>
<tr>
<td>#4</td>
<td>#30</td>
<td>#200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-100</td>
</tr>
<tr>
<td>#30</td>
<td></td>
<td>10-100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-15</td>
</tr>
</tbody>
</table>

TRENCH BACKFILL shall conform to the following grading and have a minimum sand equivalent value of 25 when mechanically compacted, or a minimum sand equivalent value of 40 when jetted:

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot;</td>
<td>#4</td>
<td>#30</td>
</tr>
<tr>
<td>100</td>
<td>40-100</td>
<td>10-100</td>
</tr>
</tbody>
</table>

AGGREGATE BASE shall conform to the requirements of Section 26 of the Standard Specifications of the City of Santa Rosa, aggregate base. Asphalt concrete shall conform to the requirements of Section 39 of the Standard Specifications of the City of Santa Rosa.

COMPACATION REQUIREMENTS (as shown on pages 1 – 3 and in the following modifications)

DRAIN ROCK shall be consolidated with a surface vibrator.

PIPE BEDDING material used to grade the trench shall be consolidated with a surface vibrator when it is placed over drain rock or when depth is greater than 6".

TRENCH BACKFILL may be compacted by jetting in lifts not greater than 10 feet when soil conditions permit water to drain quickly, as determined by the City Engineer. Jetting will not be permitted within 2 feet of finished grade. When compaction is obtained by jetting, the upper surface of the trench backfill shall be thoroughly wheel-rolled with suitable construction equipment. Trench backfill shall be compacted to 90% relative compaction prior to placing base rock or subgrade material over the trench.

CITY OF SANTA ROSA

TRENCH DETAIL

SCALE: NONE DATE: MAY 09
DWN: CDA APPROVED FILE NO.
CHK: DM STD.-215

Sheet 5 of 6
CITY OF SANTA ROSA CONTROL DENSITY FILL

Control Density Fill
Control density fill (CDF) shall be a mixture of Portland cement, sand and 1" maximum coarse aggregate, air entraining agent and water, batched by a ready-mixed concrete plant and delivered to the jobsite by means of transit mixing trucks. Control density fill may also contain Class F pozzolan (fly ash). Control Density Fill shall be free of asphaltic material.

Materials
Cement shall meet the standards as set forth in ASTM C-150, Type II cement.

Fly ash shall meet the standards as set forth in ASTM C-618, for Class F pozzolans. The fly ash shall not inhibit the entrainment of air.

Aggregate Size 1" max.

Sand Equivalent 31 min.

Mix Proportions
The mix proportions shall be determined by the producer of the control density fill to produce a flowable fill mixture which will not segregate. Each yard shall contain not less that 50 pounds of Portland cement and not less than a total of 100 pounds of cementitious material. The Contractor shall supply a mix design two weeks prior to any use of control density fill.

Mixture Properties
Compressive Strength 75–200 psi @ 28 days
Slump 3 – 9 inches

The consistency of CDF shall be such that all trench voids are filled with minimum rodding or vibrating but not so wet as to cause excessive shrinkage.

Paving
Permanent pavement may be placed directly upon the control density fill as soon as it has consolidated for the surface to withstand the process of paving without displacement. The surface of the control density fill shall be firm and unyielding. Any visible movement vertically or horizontally of the control density fill under the action of construction equipment or other maximum legal axle loads shall be considered as evidence that the control density fill does not meet this requirement. The Contractor shall provide trench plates to allow traffic flow for all locations until control density fill is ready to be paved.
1. SOIL STABILIZATION FABRIC SHALL BE MIRAFI 500-X OR EQUAL.

2. ALL ACCESS ROADS HAVING A GRADE OVER 10% SHALL BE PAVED WITH 6 INCHES OF CLASS II AGGREGATE BASE AND 2 INCHES OF ASPHALT CONCRETE FOR THAT PORTION OVER 10%.

3. ALL ACCESS ROADS HAVING A CURVE WITH A RADIUS OF LESS THAN 100 FEET SHALL BE INCREASED IN WIDTH TO 20 FEET WITH A MINIMUM INSIDE RADIUS OF 20 FEET.


5. THE SUBGRADE SHALL BE COMPACTED TO 95% RC.
On streets with parking

This bus stop is "near side" of intersection. "Far side" bus stop is mirror image with the same dimensions. A "far side" bus stop is preferable.

See City Std.-222 for section A-A

On streets with out parking

This bus stop is "far side" of intersection. "Near side" bus stop is mirror image with the same dimensions. A "far side" bus stop is preferable.

Notes:

1. Bus benches and shelter shall be located behind the sidewalk or in such a manner that a minimum 5' clear sidewalk is provided.

2. Paved section at bus stop to be as per Std.222.

3. Design shall conform to these requirements, except as otherwise approved by the City Engineer.

CITY OF SANTA ROSA

Bus Stop at Intersection

SCALE: None
DATE: JAN 2004
DWN. AJH
APPROVED
Std.-220
See City Std. 222 for section A-A

Notes:

1. Bus benches and shelter shall be located behind the sidewalk or in such a manner that a minimum 5 clear sidewalk is provided.

2. Paved section at bus stop to be as per Std. 222.

3. Design shall conform to these requirements, except as otherwise approved by the City Engineer.

CITY OF SANTA ROSA

Mid - Block
Bus Stop

SCALE: None  DATE: JAN 2004

DWN. AJH  APPROVED
Std. 221
NOTES:
1. Expansion joints & score marks to match existing curb gutter & sidewalk.
2. Use Class A P.C.C.
3. Construct subdrains when required by City Engineer.
4. Reinforcing steel required in concrete: #4 @ 12" O.C., or #5 @ 16" O.C. each way.
5. Design shall conform to these requirements except as otherwise approved by the City Engineer.
SIDEWALK AND PLANTER STRIP DIMENSIONS FOR LANES AND NEIGHBORHOOD STREETS

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

2. MEANDERING SIDEWALKS, CONTIGUOUS SIDEWALKS, AND SIDEWALKS ON ONE SIDE OF HILLSIDE STREETS TO BE REVIEWED ON A CASE-BY-CASE BASIS PER CITY ENGINEER OR PLANNING COMMISSION.

3. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.
SIDEWALK AND PLANTER STRIP DIMENSIONS FOR MINOR STREETS

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. MEANDERING SIDEWALKS, CONTIGUOUS SIDEWALKS, AND SIDEWALKS ON ONE SIDE OF HILLSIDE STREETS TO BE REVIEWED ON A CASE-BY-CASE BASIS PER CITY ENGINEER OR PLANNING COMMISSION.
3. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.
SIDEWALK AND PLANTER STRIP DIMENSIONS FOR AVENUES

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. MEANDERING SIDEWALKS, CONTIGUOUS SIDEWALKS, AND SIDEWALKS ON ONE SIDE OF HILLSIDE STREETS TO BE REVIEWED ON A CASE-BY-CASE BASIS PER CITY ENGINEER OR PLANNING COMMISSION.
3. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.
SIDEWALK AND PLANTER STRIP DIMENSIONS FOR
FOR MAIN STREETS

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE
   APPROVED BY THE CITY ENGINEER.

2. MEANDERING SIDEWALKS, CONTIGUOUS SIDEWALKS, AND SIDEWALKS ON ONE SIDE
   OF HILLSIDE STREETS TO BE REVIEWED ON A CASE-BY-CASE BASIS PER CITY
   ENGINEER OR PLANNING COMMISSION.

3. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.

4. TREE WELLS ARE MINIMUM 4' x 4'.

CITY OF SANTA ROSA

SIDEWALK AND PLANTER
DIMENSIONS FOR
MAIN STREETS

Scale: NONE Date: JAN 2004

City of Santa Rosa

STD. - 2300
SIDEWALK AND PLANTER STRIP DIMENSIONS FOR BOULEVARDS & PARKWAYS

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. MEANDERING SIDEWALKS, CONTIGUOUS SIDEWALKS, AND SIDEWALKS ON ONE SIDE OF HILLSIDE STREETS TO BE REVIEWED ON A CASE-BY-CASE BASIS PER CITY ENGINEER OR PLANNING COMMISSION.
3. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.
1. Street tree planting shall be in accordance with City standard.
2. Tree wells are 4 ft. by 4 ft. (min.) and are 1 ft. from the back of curb.
3. Weakened planes, score marks and expansion joints shall be per standard 235 or may be in a 4 ft. by 4 ft. pattern as shown.
4. Street tree selections shall comply with City Street Tree List.
RIGHT-OF-WAY FOR CONTIGUOUS SIDEWALKS

NOTES:

1. Right-of-way and sidewalk widths vary dependent upon street classifications (see Section IV, Street Designs, A. and STDs-200 A-H), but right-of-way must extend at least 6" beyond sidewalk. Sidewalk behind drive approaches may be covered by combining a sidewalk easement with the Public Utilities Easement (PUE) or by extending the right-of-way.

2. Use of contiguous sidewalk requires specific approval by City Engineer or Planning Commission (see Section IV, Street Designs, A. in these Standards).

CITY OF SANTA ROSA
R/W FOR CONTIGUOUS SIDEWALKS

Scale: NONE Date: JAN 2004
DIM. SCA CHK. APPROVED FILE NO. STD.- 230G
DETECTABLE WARNING SURFACE SHALL BE FULL WIDTH OF RAMP AND 3 FEET DEEP. THE EDGE NEAREST THE CURB LINE SHALL BE 6" MINIMUM AND 8" MAXIMUM FROM THE GUTTER FLOW LINE.

NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

2. SEE CITY STD.-240 FOR ADDITIONAL INFORMATION.

3. FOR SUBDIVISIONS WHERE SIDEWALKS ARE NOT REQUIRED FOR STREET IMPROVEMENTS, CURB DEPRESSIONS FOR HANDICAP RAMPS SHALL BE OMITTED.

4. THE SURFACE OF EACH CURB RAMP AND ITS FLARED SIDES SHALL BE SLIP RESISTANT.

5. DETECTABLE WARNINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES ALIGNED IN A SQUARE GRID PATTERN SEE DETECTABLE WARNING SURFACE DETAIL.

6. THE TRANSITION FROM RAMPS TO GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.

CITY OF SANTA ROSA
CURB RAMP
TYPE A

SCALE: NONE    DATE: AUG 2004
DWN. KRW CHK. MAS    APPROVED    FILE NO. STD.- 232 A
NOTES:
1. RAMP TYPE C TO BE ONLY USED IN SITUATIONS WHERE 4' MINIMUM LANDING BEHIND RAMP CANNOT BE OBTAINED.

2. GROOVE DETAIL SHALL BE PER STD.-232A

3. SIDEWALK AND RAMP THICKNESS SHALL BE 4".

4. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

5. THE TRANSITION FROM RAMPS TO GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.

6. DETECTABLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE GRID PATTERN (SEE DETAIL STD 232 A).
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS, EXCEPT AS OTHERWISE APPROVED BY CITY ENGINEER.
2. IN FLATLAND AREAS, MAX SLOPE OF GROUND TO BE 5:1 OR FLATTER AS DIRECTED BY THE CITY ENGINEER.
3. IN HILLSIDE AREAS, MAX SLOPE OF GROUND TO BE 2:1 OR LESS AS DIRECTED BY THE CITY ENGINEER.
4. RETAINING WALL TO BE INSTALLED AS PER DIRECTION OF CITY ENGINEER.
5. RETAINING WALL IN HILLSIDES TO BE DESIGNED TO MEET APPROPRIATE STRUCTURAL REQUIREMENTS AND AS APPROVED BY THE CITY ENGINEER.
6. VISION TRIANGLE AT CORNERS OF INTERSECTIONS TO BE AS PER CITY CODE 20.05.820.
P.C.C. SECTION

A.C. SECTION

SECTION A-A

2' A.C.

4' CLASS II AGGREGATE BASE

SAWCUT AS DIRECTED BY THE CITY ENGINEER

PRIVATE WALKWAY CONFORM AREA

CONFORM DISTANCE AS DIRECTED BY THE CITY ENGINEER

BACK OF SIDEWALK

FACE OF CURB

LIP OF GUTTER

NOTES:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
NOTES:

1. WEAKENED PLANE: 1/8" WIDE x 1" DEEP IN SIDEWALKS, 1/8" WIDE X 1 1/2" DEEP IN CURB AND GUTTER.

2. EXPANSION JOINTS MATERIAL TO BE 1/4" THICK PREMOLDED JOINT FILLER FULL THICKNESS OF CONCRETE. APPROVED MECHANICAL JOINTS MAY BE USED IN WALKS IN LIEU OF EXPANSION JOINTS.

3. SCORE MARKS FOR SIDEWALKS 6' & MORE IN WIDTH: LONGITUDINAL SCORE MARK ALONG CENTER OF WALK.

4. EXPANSION JOINTS SHALL BE INSTALLED IN THE CURB & GUTTER AT ALL CURB RETURNS.

5. EXPANSION JOINTS SHALL BE PLACED IN THE SIDEWALK AT THE SAME LOCATION AS THOSE IN THE CURB & GUTTER WHEN THE SIDEWALK IS CURB ADJACENT, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.

6. SIDEWALK SHALL HAVE A 2" BASE OF SAND, 4" OF P.C.C., AND HAVE A 2% SLOPE TOWARDS THE STREET.

7. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

8. SCORING PATTERN SHOULD MATCH ADJOINING SIDEWALKS.
SIDEWALK BARRICADE

NOTES:

1. PAINT ALL EXPOSED SURFACES WITH 1 COAT OF PRIMER AND 2 COATS OF GLOSS WHITE EXTERIOR ENAMEL AFTER CONSTRUCTION.

2. POSTS SHALL BE BACKFILLED AND COMPACTED WITH NATIVE SOIL.

3. ALL PORTIONS OF POSTS TO BE INSTALLED BELOW FINISHED GRADE SHALL BE TREATED WITH A WOOD PRESERVATIVE.

4. IF SIDEWALK IS CONTIGUOUS TO CURB, BARRICADE SHALL BE 18" BACK FROM FACE OF CURB.

5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

CITY OF SANTA ROSA

SIDEWALK BARRICADE

Scale: NONE Date: JAN 2004

DGN. AJM PROOF FILE NO.

CHK. STD.- 236

SECTION A-A
NOTES:

1. JOINTS AND SCORING PER STD.-235.
2. ALL CONCRETE SHALL BE CLASS A P.C.C.
3. * 6" FOR DRIVEWAY AREA.
4. SIDEWALK WIDTH SHALL MATCH EXISTING (UNLESS OTHERWISE CONDITIONED) AND SHALL MEANDER OR WIDEN AT OBSTRUCTIONS TO PROVIDE CLEARANCES AS SHOWN IN CITY STD.- 231.
5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

CITY OF SANTA ROSA
REPLACEMENT OF EXISTING SIDEWALK

Scale: NONE      Date: JAN 2004
DIM. SCA       APPROVED   FILE NO.
CHK.           STD.-237
NOTES:

1. TRAFFIC SIGNAL CONTROLLER & SERVICE CABINET MAY HAVE ALTERNATE LOCATIONS IF APPROVED BY THE CITY ENGINEER.

2. THE MINIMUM CURB RETURN RADIUS FOR REGIONAL & INDUSTRIAL STREETS SHALL BE PER SECTION VII. INTERSECTIONS, SUBPARAGRAPH C., "CURB RETURNS."

3. FOR RADII GREATER THAN 35' AND DELTA ANGLES GREATER THAN 90°, CURB RETURN PLAN DETAILS SHALL BE APPROVED BY THE CITY ENGINEER.

4. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

2. SEE CITY STD.-235 FOR LOCATION OF WEAKENED PLANE AND EXPANSION JOINTS.

3. ALL CONCRETE SHALL BE CLASS "A" P.C.C.
NOTES:
1. TYPE A OR B TO BE USED AT CONTRACTOR’S OPTION UNLESS SPECIFICALLY STATED ON THE PLANS.
2. SEE CITY STD.–235 FOR LOCATION OF WEAKENED PLANES AND EXPANSION JOINTS.
3. THESE DETAILS APPLY TO NEW CONSTRUCTION AND RECONSTRUCTION PROJECTS ONLY. MEDIAN CURB TO BE DETAILED ON PLANS WHERE INSTALLED ON EXISTING PAVEMENT.
4. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE SHALL BE CLASS "A" P.C.C.
PLAN

SECTION A-A

NOTES:
DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

CITY OF SANTA ROSA
STANDARD VALLEY GUTTER

Scale: NONE       Date: JAN 2004
DIM. SCA       FILE NO.
OK.           STD.- 243
NOTES:
1. MAXIMUM OF ONE CURB CUT PER PARCEL FRONTAGE, EXCEPT AS DESCRIBED ON PAGE 15 OF STREET DESIGN STDS OR AS AUTHORIZED BY THE CITY ENGINEER.
2. A MAXIMUM OF 41' WILL BE ALLOWED FOR CURB CUTS, EXCEPT AS OTHERWISE APPROVED BY CONDITIONAL USE PERMITS.
3. CURB ISLANDS BETWEEN DRIVEWAYS SHALL NOT BE LESS THAN 20' AT TOP TO TOP ON A SINGLE PARCEL.
4. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. WHERE NO SIDEWALK IS TO BE INSTALLED, DRIVEWAY APRON SHALL BE CONCRETE TO PROPERTY LINE.
NOTES:
1. MAXIMUM OF ONE CURB CUT PER PARCEL FRONTAGE, EXCEPT AS AUTHORIZED BY THE CITY ENGINEER.
2. A MAXIMUM OF 24' WILL BE ALLOWED FOR CURB CUTS, EXCEPT AS OTHERWISE APPROVED BY CONDITIONAL USE PERMITS.
3. CURB ISLANDS BETWEEN DRIVEWAYS SHALL NOT BE LESS THAN 20' AT TOP ON A PARCEL.
4. OMIT CURB ISLANDS WHEN ADJACENT DRIVEWAYS ARE LESS THAN 6' APART.
5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
6. WHERE NO SIDEWALK IS TO BE INSTALLED, DRIVEWAY APRON SHALL BE CONCRETE TO PROPERTY LINE.
COMMERCIAL DRIVEWAY

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. RADIUS TO BE A MINIMUM OF 10 FEET.
3. PEDESTRIAN RAMP NEEDED ACROSS DRIVEWAY AT SIDEWALK INTERSECTION WITH DRIVEWAY.
4. USE OF THIS STANDARD AS APPROVED BY THE CITY ENGINEER.

SECTION A-A
COMMERICAL DRIVEWAY

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. CURB RETURN RADII TO BE A MINIMUM OF 10 FEET.
3. USE OF THIS STANDARD AS APPROVED BY THE CITY ENGINEER.
SECTION A-A

SAW CUT AS AND IF DIRECTED BY THE CITY ENGINEER

CONFORM DISTANCES WILL BE AS DIRECTED BY THE CITY ENGINEER

NEW B.S.W.

F.C.

L.G.

DRIVEWAY CONFORM

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

CITY OF SANTA ROSA
DRIVEWAY CONFROM P.C.C. & A.C.

Scale: NONE
Date: JAN 2004

FILE NO. 251
General Notes
1. Streets with superelevation or other special conditions may require alternate details.
2. Culvert size and material to be approved by the City Engineer.
3. Elevation at established right-of-way line to match elevation at existing centerline of roadway.
4. Construction, slope, material and width of driveway on private property to be approved by the City Building Division; in public right-of-way by the City Engineer.
5. For cuts or fills in excess of those shown, deviations in grade require specific approval of the City Engineer.
WIDTHS (W):
PER SECTION IV., STREET DESIGNS,
SUBSECTION A., Geometric Standard
Cross Sections, Planter Strip

NOTES:

FOR TREE TYPE, REFER TO THE APPROVED LIST
ISSUED BY THE PARKS DEPARTMENT AT PHONE
(707) 543-3770.
ROOT CONTROL DEVICES SHALL BE USED FOR ALL
TREES PLANTED IN SIDEWALK CUTOUTS, PLANTER
STRIPS, & BEHIND SIDEWALKS BUT WITHIN THE
PUBLIC RIGHT-OF-WAY. FOR ROOT BARRIER TYPE,
REFER TO PARKS DEPARTMENT.
TREES SHALL BE PLANTED 10' MINIMUM FROM
WATER SERVICES OR SEWER LATERALS
NOTES:

FOR TREE TYPE, REFER TO THE APPROVED LIST ISSUED BY THE PARKS DEPARTMENT AT PHONE (707) 543-3770.
ROOT CONTROL DEVICES SHALL BE USED FOR ALL TREES PLANTED IN SIDEWALK CUTOUTS, PLANTER STRIPS, & BEHIND SIDEWALKS BUT WITHIN THE PUBLIC RIGHT-OF-WAY. FOR ROOT BARRIER TYPE, REFER TO PARKS DEPARTMENT.
TREES SHALL BE PLANTED 10' MINIMUM FROM WATER SERVICES OR SEWER LATERALS.
FOR TREE TYPE, REFER TO THE APPROVED LIST ISSUED BY THE PARKS DEPARTMENT AT PHONE (707) 543-3770.

ROOT CONTROL DEVICES SHALL BE USED FOR ALL TREES PLANTED IN SIDEWALK CUTOUTS, PLANTER STRIPS, & BEHIND SIDEWALKS BUT WITHIN THE PUBLIC RIGHT-OF-WAY. FOR ROOT BARRIER TYPE, REFER TO PARKS DEPARTMENT.
NOTES:

FOR TREE TYPE, REFER TO THE APPROVED LIST ISSUED BY THE PARKS DEPARTMENT AT PHONE (707) 543-3770.
NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
Notes:
1. Design shall conform to these requirements except as otherwise approved by the City Engineer.

2. Minimum paving section shall be 2" asphalt concrete and 8" aggregate base (class II), unless the design is based on "R" value of basement soil and approved by the City Engineer.

3. Minimum slope of paving shall be 1%.

4. Surface drainage shall be carried into a storm drain or under the sidewalk, through the face of the curb.
* OR AS APPROVED BY POST OFFICE FOR SIDEWALK INSTALLATION

1. PLANK (CUT TO FIT)

NEW 4" X 6" POST (SEE NOTE NO. 3)

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. ALL WOOD TO BE USED SHALL BE PRESSURE TREATED.
3. AN APPROVED STEEL POST MAY BE USED FOR SIDEWALK INSTALLATION,
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

2. CYLINDER MATERIAL SHALL BE THINWALL A.B.S. OR P.V.C. PLASTIC PIPE.

3. TOP OF MONUMENT CORE SHALL BE_finished SMOOTH & ROUNDED WITH NO CONCRETE ABOVE THE EDGE OF THE BRASS SURVEY MARKER.

CITY OF SANTA ROSA
CITY MONUMENT

Scale: NONE Date: JAN 2004
SURVEY MARKER CAST OF RED BRASS, ALLOY #85-555
COPPER 85%
TIN 5%
ZINC 5%
LEAD 5%

CUT SLOT IN SHAFT & SPREAD AS INDICATED AT FOUNDRY.

NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SURVEY MARKERS MAY BE OBTAINED AT THE CITY MUNICIPAL SERVICES CENTER 55 STONY POINT ROAD.
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. ASTM CLASS 30 IRON CASTINGS DIPPED IN ASPHALT PAINT.

APPROVED MONUMENT COVERS
1. PHOENIX NO. P-2001-A OR "P-2001-E"
2. "VISCO NO. 129"
3. "AMERICAN BRASS AND IRON FOUNDRY MODEL 5020-21"
4. ARTMARK PROD. CO. APC-51
5. SANTA ROSA CAST PRODUCTS SP-51
6. ALTERNATE - FORNI CORPORATION TYPE 80-60-03
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE
   APPROVED BY THE CITY ENGINEER.

2. EXISTING MONUMENT COVER, CONCRETE COLLAR AND OTHER MATERIAL SHALL BE
   REMOVED TO A DEPTH OF 2-1/2" BELOW TOP OF EXISTING MONUMENT.

3. DO NOT DISTURB EXISTING MONUMENT CORE. IF
   DISTURBED, CONTRACTOR SHALL REPLACE AS PER
   STD. 280 AT HIS EXPENSE FOR INSTALLATION AND
   SURVEY TIME NECESSARY TO RELOCATE THE
   ORIGINAL MONUMENT POSITION.

CITY OF SANTA ROSA
CITY MONUMENT
COVER REPLACEMENT

Scale: NONE Date: JAN 2004
DIN. SCA CHK. FILE NO.
STD.- 283

Mabura
NOTES:

1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

2. BRASS TAG SHALL BE COUNTERSUNK SO THAT TOP OF TAG AND RIVET IS AT OR BELOW THE SURFACE OF THE TOP OF CURB. BRASS TAG SHALL BE SET TO ENSURE A PERMANENTLY PLACED MONUMENT. EPOXY RESIN MAY BE USED IN ADDITION TO ABOVE METHODS.

3. DRILL HOLE SHALL BE DRILLED ONLY. AN ALLOY POP RIVET SHALL BE USED TO ATTACH BRASS TAG TO TOP OF CURB (SEE NOTE 4).

4. IMPACT FASTENERS ARE NOT ALLOWED.

CITY OF SANTA ROSA
LOT CORNER
REFERENCE MONUMENT
AT STREET FRONTAGE

ADOPTED MAY 9, 1989 BY CITY COUNCIL RES. # 19420