

4.4 Creeks, Riparian Corridors, and Storm Drainage

I. GOALS

- A. To preserve existing creeks and riparian vegetation along creek corridors.
- B. To prevent contamination and sedimentation of creeks.
- C. To restore and enhance creeks and riparian corridors where they have been degraded.
- D. To implement the requirements of the Santa Rosa Creek Design Manual.
- E. To encourage development along creek corridors by treating the corridors as open space amenities rather than undesirable elements with back-on treatment.
- F. To accommodate storm drainage requirements without damaging the natural character of a creek corridor.
- G. To design projects and storm drainage systems that comply with the National Pollution Discharge Elimination System (NPDES) standards.
- H. To coordinate development with approved creek plans and provide pedestrian and bike paths along creeks when called for in approved plans.
- I. To incorporate pedestrian/ bike paths as an ancillary use on existing vehicle service roads along creeks.



Fig. 4.4.1 The Prince Memorial Greenway project in Santa Rosa has reclaimed a section of Santa Rosa Creek from a storm drainage channel to its natural state with pedestrian access.



Fig. 4.4.2 A map with information along Brush Creek in Santa Rosa.



Fig. 4.4.3 Brush Creek near Highway 12.



Fig. 4.4.4 The design of this subdivision along Brush Creek places a public street adjacent to the creek with homes facing the creek. This is the preferred treatment compared to “back-on” or locating backyards adjacent to a creek, as in Figure 3.1.19.



Fig. 4.4.5 This Sonoma County Water Agency maintenance road has been opened for use by pedestrians and bicyclists.

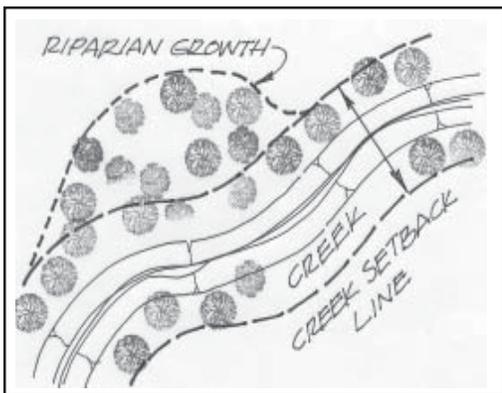


Fig. 4.4.6 This diagram illustrates a common condition where riparian vegetation along a creek extends beyond the creek setback line. Care should be taken to avoid disturbing significant riparian growth, even if it extends beyond the creek setback line.

II. GUIDELINES

A. CREEKS and RIPARIAN CORRIDORS

1. Preserve waterways in their natural state.
2. Projects that include channelized waterways should incorporate restoration of the riparian habitat in the landscape design.
3. Avoid “back-on” treatment (backyards adjacent to a creek) along creek corridors. Place streets parallel to creeks in order to bring the corridors into the public realm.
4. Where additional channel drainage capacity is needed, construct secondary channels and landscape in accordance with City and Sonoma County Water Agency requirements.
Appropriate landscaping of secondary channels serves to strengthen the resource value of these channels and augments existing creek side open space which can define and interconnect neighborhoods. Successful examples of this treatment can be seen on Austin Creek in Rincon Valley and Sierra Creek in Bennett Valley.
5. Open channels in the form of Natural Waterways or Landscaped Constructed Waterways are preferred over closed conduits. In situations where small drainage swales can generate storm water flows that can be contained in a 72 inch conduit and where no significant riparian vegetation or wildlife is known to exist, undergrounding storm water flows may be considered.
6. Where the opportunity occurs and when permitted by the Sonoma County Water Agency, flood control channels can be used by pedestrians or cyclists. In such cases, design development to make use of these channel corridors as part of a larger pedestrian network.
7. Where riparian growth extends outside of the Creek Setback Line, preserve and protect this important part of the creek corridor. See Figure 4.4.6.

8. All projects along the Santa Rosa Creek should comply with the Santa Rosa Creek Design Manual available at the City's Department of Community Development.
9. When pedestrian and vehicular crossings are needed, provide structures that limit the disturbance of the creek bed, such as bridges. Culverts are discouraged.



Fig. 4.4.7 Bridge at Skyhawk that preserves the creek.

B. STORM DRAINAGE

1. Consider the use of open spaces such as parks and play fields for accommodation of temporary ponding during heavy storm periods.

This approach has served to reduce extra costs associated with constructing and increasing the flood holding capacity of Santa Rosa and Brush Creeks. One example of combining storm water detention with the recreational development of open space exist in Rincon Valley with the Brush Creek Detention Basin which is used in the dry season as a baseball facility. As another example, Santa Rosa and Spring Creek storm waters are detained by a larger holding facility which has prevented flooding in downtown Santa Rosa and is also used as the popular Spring Lake Regional Park. These storm water detention facilities also recharge ground water for wells in the area.

2. Incorporate filtering recharge techniques such as detention basins, natural swales and rock filtering to clean pollutants out of storm water collected on a site before the water enters the City's waterway system. *Discharges from Santa Rosa's storm drainage system is regulated by a National Pollution Discharge Elimination System (NPDES) permit issued by the North Coast Regional Water Quality Control Board. This permit will require the City to develop a Standard Urban Stormwater Mitigation Plan (SUSMP) that will outline storm drainage requirements and significantly affect many aspects of site planning and design. Applicants/designers are encouraged to contact the City's Department of Community Development, Engineering Division early in the design process to check on the status of the SUSMP and incorporate required mitigation measures. Refer to "Start*



Fig. 4.4.8 The Countryside development of Fulton and Hall Road incorporates a large natural swale for storm drainwater as opposed to putting it in a pipe.

at the Source” listed on page 12-1 , for many best practices related to stormwater cleansing.

3. Direct lot drainage to the street where possible.
4. Except for hillside conditions, design building pads to be at or above street level. Secondary drainage will be required to intercept and convey lot drainage which is not to directed the street.
5. Due to the typical heavy soil conditions in Santa Rosa, avoid lot-to-lot drainage unless specifically approved by the Department of Community Development. Approval will, at the minimum, require easements for access and drainage through an underground pipe.