

Section 4. CHANNEL TREATMENT SELECTION GUIDELINES

A. General

The selection of a treatment type or of a combination of treatment types for a channel within the Rio Rancho/SSCAFCA area should be based on an assessment of the needs of the community as they relate to:

- System Failure
- Safety
- Safety System Impacts
- Adjacent Treatment Types
- Operation and Maintenance
- Initial Costs and Life Expectancy
- Costs Including ROW
- Joint use Possibilities
- Water Quality Impacts

These items are briefly described below:

B. Flood Control

The magnitude of the flood control requirements and the consequences of a system failure should be considered foremost in the treatment selection process.

C. Drainage

The existing and future land uses, the specific on- and off-site drainage treatments, and watershed topography should each be evaluated in terms of their impacts on the channel system. The unmitigated hydrologic effects of urbanization generally include higher peak runoff rates from smaller, more frequent storms, cleaner runoff (with respect to sediment), and increased annual runoff volumes.

D. Maintenance

The selection of a channel treatment type should include analyses of both short and long term maintenance. While maintenance efforts will vary between treatment types, all facilities should be able to function through one runoff event with no maintenance, through one flood season with very little maintenance and from season to season with regular, but minimal maintenance requirements.

E. Rights-of-Way and Easements

The cost of land and the availability of rights-of-way or easements should be considered in the channel treatment selection process. Rights-of-way and easements should be appropriately located, aligned and sized for the particular treatment type. Some treatment types may require significant construction easements, but much smaller permanent rights-of-way or easements. The likelihood of replacement or reconstruction should be considered when channel treatment selection is balanced against the configuration of permanent rights-of-way and easements.

F. Safety

The selection of a channel treatment type should be based on any special safety considerations dictated by adjacent or nearby land uses. Whenever a required channel treatment is not compatible with adjacent land uses, adequate safety hazard mitigation measures should be incorporated into the design and construction of the facilities. Channels with vertical walls of 30 inches or greater will require a barrier or fence. Minimum fence or barrier height shall be 42 inches.

G. Upstream and Downstream Channel Treatments

The treatment selection process for each channel reach should include an analysis of the impacts of existing and planned upstream and downstream treatment types on a proposed treatment type and, in turn, the effects of the proposed treatment on existing and planned upstream and downstream treatments.

H. Initial Cost and Life Expectancy

The initial construction costs of various channel treatment types are and will always be one of the more heavily weighted factors in the selection process. However, when viewed on a larger scale, maintenance and replacement costs can be more important to the total costs of providing adequate levels of protection over time, and therefore must be considered in the planning, design and construction of channel treatment measures.

I. Joint Use Possibilities

The opportunities for including other uses such as transportation and utility corridors, open space or recreation in the design should be considered when selecting a treatment type and when establishing rights-of-way and easements. The inclusion of any other uses must be self-supporting financially and in no way impair or delay the implementation of the drainage and flood control function of the facilities. Operations and Maintenance of these joint use facilities must also be considered. SSCAFCA will only operate and maintain drainage and flood control facilities.