A. General Standards for Storm Water Detention

The intent of the City to apply storm water drainage policies and practices on a total watershed area basis so as to prevent or alleviate, to the greatest extent possible, downstream flooding problems and resulting property damage or deterioration.

It is the policy of the City to encourage the developer to locate and design streets, blocks, lots, parks and open space in such a manner as to reduce the velocity of overland flow; allow the maximum opportunity for infiltration of storm water into the ground; and to preserve existing streams, channels, detention basins and flood plain areas as open space.

The Plan shall include both permanent detention facilities and interim facilities to control erosion and runoff during the construction process.

B. Runoff Determination

The proposal and all drainage calculations required hereunder shall be prepared by a professional engineer licensed in the State of Texas. The rational method shall be used in calculating runoff for all developments less than 200 acres in size. For developments exceeding 200 acres in area, the applicant shall submit a proposed method of evaluation for the calculation of runoff to the City Engineer for approval.

C. Storm water Detention

1. General

Storm water detention facilities shall be designed to detain the differential runoff from the project site under the design conditions so stated so that the post-development rate of runoff is equal to or less than the pre-development rate of runoff.

2. Storage Volume

The volume of storage provided in detention basins shall be sufficient to control the differential runoff from a 50-year storm return-frequency of 24-hour duration plus at least one foot of freeboard. Differential runoff shall be defined as the increase in volume of runoff generated by the proposed development or redevelopment of a parcel of land as compared to the runoff volume which occurred prior to said development or redevelopment.

3. Outlet Control Works

a. Outlet works shall be designed to limit peak outfall rates so that the rate of runoff from the proposed development, including discharge from the detention basins, shall not exceed the rate of runoff that occurred prior to the development. The outlet works shall not include any mechanical components or devices.
b. Size and hydraulic characteristics shall be such that all water and detention storage is released to the downstream storm drainage system within 24 hours following the end of the design rainfall.

c. The minimum pipe size for use as an outlet or low flow control orifice pipe shall be 12 inches in diameter. Emergency overflows or spillways shall be provided to permit safe passage of runoff for a storm with a return frequency of at least 100 years.

4. Design Data Submittal for Detention

In addition to complete plans, the following design data shall be submitted for the City Engineer's approval for all projects including temporary detention facilities:

a. Depth-capacity curve for the proposed detention facility showing accumulated volume of storage with varying depth of water in the proposed facility.

b. Discharge characteristics curve for the outlet works of the detention facility.

c. Combined storage-outflow curve showing inflow and discharge of runoff volume starting at the beginning of the design storm. Curves shall be extended to include the time required for complete discharge of all runoff stored within the detention facility.

5. Dry Bottom Basins:

Provisions must be incorporated to facilitate interior drainage. The minimum bottom slope shall be two percent unless an approved paved concrete swale is provided in the bottom of the detention basin. The basin shall be designed to serve secondary purposes for recreation, open space or other types of use which will not be adversely affected by occasional or intermittent flooding.

D. Easements and Maintenance Requirements

Permanent easements shall be dedicated to the City of Sulphur Springs over all lands, structures and facilities to be used for the detention and conveyance of storm drainage. Easements shall include all necessary provisions and land necessary for the City's right of entry for purposes of inspection or maintenance of such facilities.

Maintenance of drainage facilities and systems, shall hereafter be considered as a joint responsibility of both the homeowner and the City of Sulphur Springs. The homeowner whose property includes all or a portion of an open drainage swale, channel or detention basin shall be held responsible for the mowing of grass and removal of debris or obstructions to the flow of water in or through such facilities. The City shall be responsible for the repair and cleaning of storm drainage conduits, outlet structures, curb inlets, junction boxes and other major drainage facilities, all as determined by policies as may be adopted by the City Council.