BEACH AND STREAM ENHANCEMENT

INTRODUCTION

Beach and stream enhancement consists of the upgrading of shorelines for the purposes of recreation, aquatic habitat restoration, or both. The materials used depend on the proposed use. For recreation purposes, various grades of clean sand or pea gravel are often used to create a beach. Native materials and vegetation, and occasionally combinations of other appropriate materials (for example, concrete weirs), may be used to enhance a beach or stream for habitat purposes. Beach and stream enhancement may occur above and below the water line. Activities which are actually Landfill or Shoreline Stabilization are governed under their respective sections elsewhere in this document.

POLICIES

1. All beach and stream enhancement projects should ensure that aquatic habitats, water quality, flood conveyance, and flood storage capacity are not degraded by the action.

2. Beach Restoration/Enhancement. Require the design and use of naturally regenerating systems for prevention and control of beach erosion over bulkheads and other structures where:

    a. The length and configuration of the beach will accommodate such systems;

    b. Such protection is a reasonable solution to the needs of the specific site; and

    c. Beach restoration/enhancement will accomplish one or more of the following objectives:

        1. Recreate or enhance shoreline conditions;

        2. Create or enhance natural habitat;

        3. Reverse otherwise erosional conditions;

        4. Enhance access to the shoreline, especially to public shorelines.

3. Stream Restoration/Enhancement. Permit stream enhancement projects where:

    a. The length and configuration of the stream will accommodate such systems;

    b. Such protection is a reasonable solution to the needs of the specific site; and

    c. Stream restoration/enhancement will accomplish one or more of the following objectives:

        1. Recreate or enhance natural stream conditions;

        2. Create or enhance natural habitat;

        3. Reverse otherwise erosional conditions;

        4. Enhance access to the shoreline, especially to public shorelines.

4. Require soil bioengineering or other combination of live woody vegetation and natural or specially developed synthetic materials for bank stabilization at the project site and adjacent sites which would be affected by the beach or stream enhancement.

5. All beach and stream enhancement or restoration projects should comply with design standards and guidelines prepared by the Washington State Department of Fisheries, Washington State Department of Wildlife and Snohomish County.

REGULATIONS

1. Beach enhancement, including enhancement conducted for the purpose of providing public access, may be permitted when the applicant has demonstrated that no significant change in littoral drift will result which will adversely affect adjacent properties or habitat.

2. Natural Beach Restoration/Enhancement

    a. Design Alternatives. Design alternatives shall include the best available technology such as, but not limited to:

        1. Gravel berms, drift sills, beach nourishment, and beach enhancement when appropriate;

        2. Planting with short-term mechanical assistance, when appropriate. All plantings provided shall be maintained for a minimum of one entire growing season.

    b. Design Criteria. Natural beach restoration/enhancement shall not:

        1. Detrimentally interrupt littoral drift, or redirect waves, current or sediments to other shorelines;

        2. Result in any exposed groin-like structures; Provided: small "drift sill" groins may be used as a means of stabilizing restored sediment where part of a well planned beach restoration program;

        3. Extend waterward more than the minimum amount necessary to achieve the desired stabilization;

        4. Result in contours sufficiently steep to impede easy pedestrian passage, or trap drifting sediments;

        5. Create "additional dry land mass"; and

        6. Disturb significant amounts of valuable shallow water fish/wildlife habitat, unless such habitat is immediately replaced by new habitat that is comparable or better.

    c. Natural Beach Restoration Construction Standards.

        1. The size and/or mix of new materials to be added to a beach shall be as similar as possible to that of the natural beach sediment, but large enough to resist normal current, wake or wave action at the site.

        2. The restored beach shall approximate the natural beach width, height, bulk or profile.

3. Stream Restoration/Enhancement

   a. Design Alternatives. Design alternatives shall include the best available technology such as, but not limited to:

      1. Streamside stabilization through bioengineering, fish screens, fish passage obstruction removal, fishways, and stream channel improvements where appropriate.

      2. Planting with short-term mechanical assistance, when appropriate. All plantings provided shall be maintained for a minimum of three years.

   b. Design Criteria. Stream restoration/enhancement shall not:

      1. Create passage barriers for migrating fish;

      2. Remove more than the minimum existing imbedded organic debris;

      3. Alter the natural stream more than the minimum amount necessary to achieve the desired restoration or enhancement;

      4. Disturb significant amounts of valuable fish/wildlife habitat, unless such habitat is immediately replaced by new habitat that is comparable or better.

   c. Stream Restoration Construction Standards.

      1. The size and/or mix of new materials to be added to a stream shall be as similar as possible to that of the natural materials, but large enough to resist normal current, wake or wave action at the site.

      2. The restored stream shall approximate the natural stream hydrology, geometry and flow.

4. All shoreline modification activities such as Beach and Stream Enhancement must be in support of an allowable shoreline use that is in conformance with the provisions of this master program. All shoreline modification activities not in support of a conforming allowable use are prohibited. Exception: Shoreline stabilization may be allowed as a shoreline use providing it can be demonstrated that such activities are necessary for the maintenance of shoreline stability and natural ecology.

<u>Prohibited</u>

1. Beach enhancement is prohibited within spawning, nesting or breeding habitat and also where littoral drift of the enhancement materials adversely affect adjacent spawning grounds or other areas of biological significance.

2. Beach and stream enhancement is prohibited if it interferes with the normal public use of the navigable waters of the state.

3. Beach and stream enhancement may not be used solely for the purpose of creating new land area.

Natural Environment

1. Beach and stream enhancement is permitted as a conditional use in the Natural Environment, subject to the General Regulations.

Conservancy Environment

1. Beach and stream enhancement is permitted in the Conservancy Environment, subject to the General Regulations.

Rural Environment

1. Beach and stream enhancement is permitted in the Rural Environment, subject to the General Regulations.

Suburban Environment

1. Beach and stream enhancement is permitted in the Suburban Environment subject to the General Regulations.

Urban Environment

1. Beach and stream enhancement is permitted in the Urban Environment subject to the General Regulations.