



STORM DRAINAGE DESIGN MANUAL UPDATE ON FINAL EDITS

June 14th, 2018



TODAYS GOAL

Receive update on final edits made since the May 24th
Study Session Discussion

- One outstanding policy issue is wash preservation
- Direction received was to mimic existing Town Code regulations regarding washes and move tiered system plus alternative for fenced in yards to Appendix of Manual



NATURAL WASH CORRIDORS

- Removed the tiered system and utilized existing Town Code text from Section 5-10-5
- Baseline is washes should remaining in an undisturbed state unless otherwise approved by the Town Engineer and Community Development Director
- Updated definition of Hillside Wash to match new language from updated Hillside Code

3-6 CHANNEL CONVEYANCE

A. Channel Design

1. Visual Character:

To maintain high quality and low water use landscapes that reflect the natural character valued by Town residents, drainageways, wash corridors and other storm drainage facilities will be protected and managed to maintain natural grades and native soils and plantings and provide visual and physical continuity consistent with the Town's Landscape Guidelines and the Design and Maintenance Guidelines found in Appendix 3-A.

2. Natural Wash Corridors:

Washes are to remain in an undisturbed state except for modifications approved by the Town Engineer that are required to accommodate storm water. Washes shall not be realigned except as approved by the Town Engineer and Community Development Director when necessary to accommodate storm water or to restore a disturbed wash to a more natural state. When assessing if a wash can be modified, the Town Engineer and Community Development Director will use the guidelines set forth in Appendix 1-C – Wash Alteration Request Guidelines.

In all cases, wash alterations must maintain the locations of inflow onto the property and outfall from the property and have no adverse impacts on other property owners as documented in a drainage report signed and sealed by a professional engineer. Additionally, a drainage easement for protection and access of the wash shall be dedicated to the Town per Section 7, Drainage Easements and Recorded Agreements.

To determine if a wash meets the definition of a Natural Wash or Hillside Wash, five cross sections of the wash equally spaced across the property shall be provided. If three or more of the cross sections are at least 2 feet deep from the top of the bank and 5 feet wide to the top of the bank, the wash is considered a Natural Wash or Hillside Wash.

Washes that are located on properties designated as Hillside and meet the definition of a Hillside Wash, shall not be diverted, relocated or moved from its present position to another location, however, a Hillside Wash may be bridged by a structure so long as the structure does not impede the flow of the Hillside Wash in accordance with hillside regulations.

3. Natural Wash Preservation

Town rights-of-way and easements along Natural Wash corridors shall be maintained to preserve the natural environment and landscape features. Natural Wash corridors shall include a landscape buffer area of at least 5 feet on each side, perpendicular to the top of the bank, and designed to protect the wash's functional and ecological integrity.




FIGURE 3e TYPICAL NATURAL WASH LANDSCAPE

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WASH ALTERATION REQUEST GUIDELINES

- Moved tiered system to appendix as a guideline for the Town Engineer and CD Director to utilize when reviewing wash alteration requests
- Added provision for alteration when the wash is within a fenced in side or rear yard

1-C: WASH ALTERATION REQUEST GUIDELINES

The Town's policy is to encourage the protection of Natural Wash corridors and discourage constructed and piped stormwater conveyances whenever possible. If a Natural Wash must be disturbed in order to construct a Habitable Structure, it shall be designed in such a way to mimic a natural channel, utilizing natural and native materials to recreate a functional, aesthetic and ecologically sound conveyance. A wash can be piped when necessary to provide a driveway for site access.

To determine if a wash meets the definition of a Natural Wash or Minor Wash, five cross sections of the wash equally spaced across the property shall be provided. If three or more of the cross sections are at least 2 feet deep from the top of the bank and 5 feet wide to the top of the bank, the wash is considered a Natural Wash.

Three tiers have been established to define the types of wash modifications permitted in the Town:

Tier 1 (Modification to a Minor Wash): Washes included in this category:

- Are less than 2 feet deep and 5 feet wide as measured at the top of bank;
- Have an existing 100-year, 6-hour peak flow rate of less than 50 cfs; and
- Do not reside in an existing Drainage Easement.

Allowable wash modifications in Tier 1 with Town Engineer approval include:

- Modify the wash; or
- Relocate the wash; and/or
- Enclose the wash.

Tier 2 (Modification to a Natural Wash): Washes included in this category:

- Meet or exceed the definition of a Minor Wash; and/or
- Have an existing 100-year, 6-hour peak flow rate equal to or exceeding 50 cfs; and
- Impact more than 25% of the site's buildable area.

Allowable wash modifications in Tier 2 with Town Engineer approval include:

- Relocate the wash; and/or
- Enclose the wash.

Tier 3 (Protection of a Natural Wash): Washes included in this category:

- Meet or exceed the definition of a Minor Wash; and/or
- Have an existing 100-year, 6-hour peak flow rate equal to or exceeding 50 cfs; and
- Impact less than 25% of the site's buildable area.

A Tier 3 modification requires the Developer to maintain the wash in its natural condition or restore it in its original location or as close to its original condition as practicable considering the principals outlined in Appendix 2-A (Low Impact Development Guidelines).

In all cases, wash modifications must maintain the locations of inflow onto the property and outfall from the property and have no adverse impacts on other property owners as documented in a drainage report signed and sealed by a professional engineer.

When located within a fenced in side or rear yard, Natural Washes are permitted to be modified inside of the fenced in area of the property so long as they maintain the historical entrance and exit points and have no negative impact on neighboring properties as documented in a drainage report signed and sealed by a professional engineer.

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APPENDIX 1-C

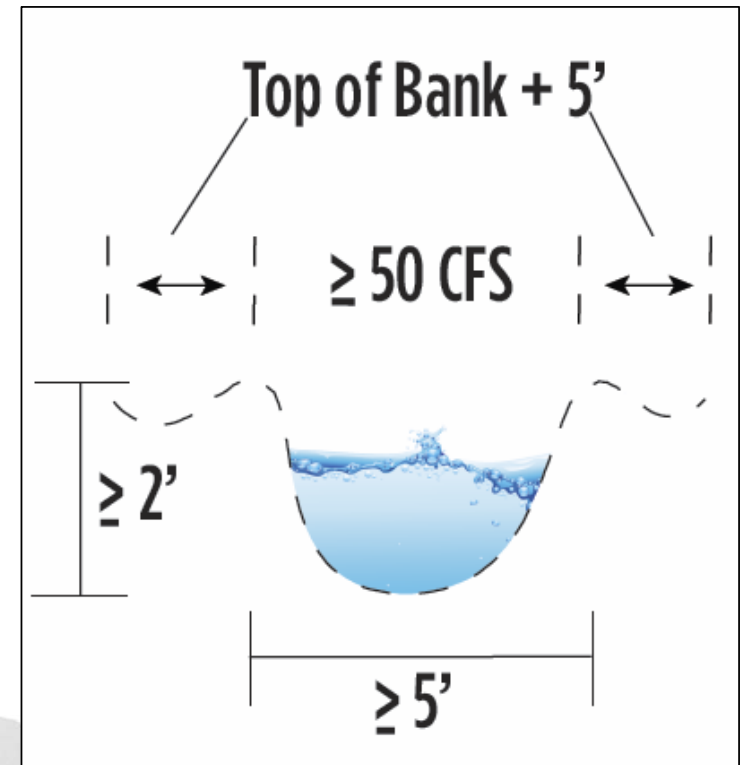
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WASH CROSS SECTIONS

- When determining if a wash meets the 2' deep and 5' wide requirements, applicants engineer submits cross sections
- Clarified how many and where the cross sections should be taken
 - 5 cross sections equally spaced, if 3 or more meet 2' by 5' requirement, wash is considered to meet definition of Natural Wash



MOVING FORWARD

Is on tonight's agenda for adoption:

- 1. Resolution adopting the amended Storm Drainage Design Manual**
- 2. Ordinance to change the text of Town Code Section 5-10-3 Storm Drainage Design**



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Questions/Directions



May 24th, 2018