

STORM DRAINAGE DESIGN MANUAL UPDATE

March 23rd, 2017



REQUESTED ACTION

1. Receive and discuss further information requested on the update to the Storm Drainage Design Manual

2. Schedule future Council Meeting for adoption, if appropriate



AGENDA

- Public Outreach and Comments
- Council Comments
- New Requirements
- Cost Implications
- Options
- Adoption Process

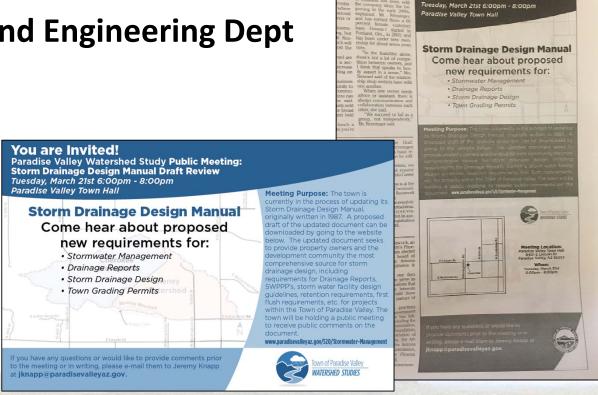






PUBLIC OUTREACH

- March 8th Newspaper Advertisement
- Flyers at Building Dept and Engineering Dept
- Media Boards
- Notify Me E-mail List



TOWN OF PARADISE VALLEY INDEPENDENT

You are Invited!
Paradise Valley Watershed Study
Public Meeting: Storm Drainage
Design Manual Draft Review



PUBLIC COMMENTS

- Phone Calls / E-mails
- March 21st Public Meeting

Slide intentionally left blank, will be updated after the March 21st Public Meeting



Slide intentionally left blank, will be updated after the March 21st Public Meeting



COUNCIL COMMENTS

- Underground retention for single family residences
- Pool backwash on hillside lots
- Retention basin easements
- Review Appendix 6B Warning and Disclaimer of Liability
- Identification of new requirements
- Additional costs associated with complying



NEW REQUIREMENTS

- Retention basin easements
- First flush requirements
- Tiered hillside retention requirements
- Operation and maintenance requirements for underground storage
- Roadway design requirements
- Stockpile plans



COST INDICATORS

- Hard to identify actual costs
 - Multiple ways to address requirements depending on site, preference, etc.
- Did not include items that town currently enforces by outside requirements (i.e. Storm Water Pollution Prevention Plans)
- Utilized scale from \$ to \$\$\$

```
$ - <$2,500
```

\$\$ - \$2,500 to \$10,000



COST INDICATORS

Item	Summary	Outside Regulation	SDDM Section	Additional Cost
Substantial Improvement Worksheet	Required when rebuilding structure in SFHA	FEMA	2-4	\$
Hillside Retention	Tiered requirement based on lot slope	N/A	3-2.B.1.c	\$ - \$\$\$
First Flush Requirement	Retention of first ½ inch of rainfall to reduce particulates in washes	EPA	3-2.B.2	No cost to \$\$\$
Retention basin certification	Certified retention basin capacity post construction by engineer	N/A	3-2.B.3	\$
Operations/Maintenance for underground basins	Requires training, documentation, inspection and maintenance	N/A	3-3.E	\$\$



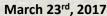
COST INDICATORS

Item	Summary	Outside Regulation	SDDM Section	Cost
Roadway design requirements	Requirements for culverts under the roadway if a wash crosses it	N/A	3-5	\$\$\$
Erosion Hazard Management	Analysis of erosion potential and bank stabilization of washes on site	ADWR/FCDMC	4-1	No cost to \$\$\$
Low Impact Development	At owners/developers discretion, improvements to manage stormwater at source	N/A	6-1	No cost to \$\$\$
Retention Basin Easements	Requirement for an easement over retention basins on private property	N/A	8-1	\$ - \$\$
Stockpile Plans	Requirement for a grading plan for temporary stock pile of materials	N/A	9-2	\$\$



POLICY QUESTIONS

- 1. Calculation for flatland retention for disturbed area
 - Currently calculated as a weighted average of impervious area of the entire site
 - Proposed in manual as actual impervious area of site
- 2. Hillside retention requirements on tiered scale
 - Current requirement states "is required but may be waived in cases where the average slope of the property exceeds 5%"
 - Proposed in manual as a tiered reduction based on lot slope
 - Lots with Slope 10-20% require 100% retention
 - Lots with Slope 20-30% require 50% retention
 - Lots with Slope above 30% require no retention



POLICY QUESTIONS

- 3. First flush requirement for first ½" of rainfall
 - Currently not required
 - Proposed in manual that if retention is provided on site, first flush is required to be retained



OPTION 1

- Adopt as written (Recommendation)
 - Include action on three policy decisions:
 - 1. Calculation for flatland retention for disturbed area
 - 2. Hillside retention requirements on tiered scale
 - 3. First flush requirement for first ½" of rainfall



OPTION 2

- Adopt without policy questions answered
 - Revert to existing requirements:
 - 1. Calculation for flatland retention for entire site
 - 2. Hillside retention as current code states
 - 3. No first flush requirement for first ½" of rainfall



ADOPTION PROCESS

- Two part process:
 - 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



REQUESTED ACTION

1. Receive and discuss further information requested on the update to the Storm Drainage Design Manual

2. Schedule future Council Meeting for adoption, if appropriate

